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THE COMPETITIVE POSITION OF THE CHICAGO POTATO MARKET[1]

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IN SEVERAL recent studies of the Chicago livestock market,[2] the areas from which supplies were drawn in competition with other markets were delimited theoretically on the basis of freight and base price differentials and then checked against similar areas delimited on the basis of actual receipts. These studies marked a new approach to marketing problems and are a distinct contribution to the existing literature on marketing.

While these studies were concerned with buying markets competing for supplies, this present analysis is concerned with selling markets competing for buyers to purchase their supplies.[3] The purpose, therefore, is to delimit the potential consuming area of potatoes for the Chicago wholesale potato market under the

[1] This is the second of two articles by Mr. Battin, who is Professor of Economics and Business Administration, College of Puget Sound.

[2] Edward A. Duddy and David A. Revzan, *The Supply Area of the Chicago Live Stock Market* (Chicago: University of Chicago Press, 1931); "The Potential Supply Area of the Chicago Live Stock Market," *Journal of Farm Economics*, Vol. XLII, No. 3, (July, 1931); "Potential Supply Areas of Pacific Coast Markets for Hogs," *Journal of Farm Economics*, October, 1932.

[3] In "Distribution of Live Stock from Chicago" (University of Chicago Press, 1932), the same authors have made a similar study for cattle and hogs.

conditions of prices and marketing costs which prevailed over the period 1926–27 to 1930–31, and to compare this potential (theoretical) consuming area with the actual consuming area as determined by actual sales during this period.

The consuming area to which a wholesale potato market may theoretically lay claim is all that territory in which consumers can buy potatoes from that market at a price less than or just equal to the price they would have to pay for potatoes of similar quality bought from a competing market. The consuming area to which a market actually lays claim is, of course, that territory in which it actually makes sales.

Frank A. Fetter, late of Princeton University, has called attention to the existence of an "economic law of market areas." Taking the point of view of two selling markets competing for territory in which to distribute their products, and assuming that railroad freights which are paid to overcome distances vary in exact proportion to distance, that goods can be shipped on a straight route from each market to every market in the territories considered, and that the two base prices are alike to all buyers at the same time, he formulates the following general law of market areas:

> The boundary line between the territories tributary to two geographically competing markets for like goods is a hyperbolic curve. At each point on this line the difference between freights from the two markets is just equal to the difference between the market prices, whereas on either side of this line the freight difference and the price difference are unequal. The relation of prices in the two markets determines the location of the boundary line: the lower the relative price, the larger the tributary area.
>
> The base prices being unequal, the boundary between the two tributary territories is a curve bent around the focus, or market, with the higher base price, and with its two sides diverging in a general direction away from the focus, or market, with the lower base price.
>
> In case both market prices change at once, either in the same or opposite directions, the effect upon the shape of the boundary curve does not depend on the absolute change but on the relative change or change in the differential between them.
>
> Size of market territories thus may be said to be a function of the differential of market base prices, freight rates remaining constant and vice versa: that is, the higher the market price in any market, relative to that in its

geographical competitor, the narrower the territory that economically is tributary to it.[4]

The problem in this present study is first to apply this law to conditions of actual freight rates and market prices prevailing over a given period in order to delimit an area of advantage in which potatoes might be purchased from a given market for less, or for no greater price than they could be purchased from a competing market. The second part of this problem is to delimit the territory in which potatoes were actually sold by the given market in competition with other markets. The theoretical territory and the actual territory having been determined, the problem is finally to check the former against the latter.

The application of this law to the distribution of potatoes, which are consumed in their natural form without passing through intermediate stages of manufacture, involves the competition of growing regions for sales. The growing regions are, in fact, markets. There is usually a prominent wholesale market so closely identified with each growing region that any market territory identified with one is *ipso facto* identified with the other.

THE METHOD

The identification of the Chicago wholesale potato market with the western growing regions of Wisconsin, Minnesota, Colorado, and Idaho, as against the eastern growing regions of New York and Maine, simplifies rather than complicates the method in this present study. Most of the potatoes from these western states, plus those from Michigan sold east of the Illinois and Mississippi rivers, are handled or, at least, sold through the Chicago wholesale market, with the result that delimitation of the market territory for the western growing regions is in reality a delimitation of Chicago's market territory. This competition between the western and eastern producing sections, typified by Wisconsin and Maine, respectively, constitutes the major struggle in the United States between late potato growing regions for consuming mar-

[4] F. A. Fetter, "The Economic Law of Market Areas," *Quarterly Journal of Economics*, XXXVIII, 520–29. See also Fetter, *Principles of Economics* (ed. 1915), chap. xxxi.

kets. The competition is for sales in that great area lying between the Mississippi River and the Atlantic seaboard. Minor phases of this struggle between the western and eastern growing regions are exemplified by competition existing between Michigan and New York and between Wisconsin and Michigan. The market territories have been delimited on the basis of theoretical advantage in sales and on the basis of actual sales of Wisconsin potatoes as against those of Maine; of Michigan potatoes as against those of New York; and of Wisconsin potatoes as against those of Michigan. Chicago has been identified with the western region in each comparison. The actual distribution of potatoes from each of the states of Idaho, Colorado, and Nebraska has also been shown in order to study their relation to the competitive position of Chicago.

In order to locate the boundaries of theoretical advantage between two regions competing for sales it was necessary to establish base prices for each region. These base prices were determined by averaging the weekly f.o.b. shipping point prices per hundred pounds of U.S. No. 1 potatoes as recorded by the representatives of the Market News Service of the Bureau of Agricultural Economics for the principal shipping stations of each of the two competing regions for the five-year period, 1926–27 to 1930–31. The difference between these two averages was then determined. This difference in f.o.b. shipping point price, while a disadvantage to the grower in the region of lesser price, was regarded as an advantage in securing a market, because it could be converted into freight cost at rates prevailing in the tariffs of the different railroads serving the area of consumption common to the competing growing regions, thereby permitting potatoes from the region of lower price to penetrate more distant territory than those from the region of higher price. For example, if the f.o.b. price in region A was $1.25 per hundred pounds and in region B was $1.00 per hundred pounds, the price differential of 25 cents meant that the grower in region B received 25 cents per hundred pounds less for his potatoes than did the grower in region A. But when this 25 cents was converted into freight cost, it meant that potatoes from region B could be shipped 25 cents

worth of railroad mileage farther than potatoes from region A and still sell for the same price to the final consumer. This fact would mean that the boundaries of theoretical advantage for potatoes from region B would extend farther afield than those from region A.

The average f.o.b. price as found in each competing region was calculated and the price differential was converted into freight cost in order to determine the points at which the base prices plus freight from the two regions were equal. These points having been located, a line was drawn through them to establish the boundaries of the territory naturally tributary to the respective growing regions on an average price basis. This procedure was based upon the assumption that the potatoes from both regions sold for the same price at the points of final purchase when they were in direct competition. This assumption is not always true to fact, because there is frequently a premium paid for the potatoes from one region or the other based on difference in quality or peculiarities of taste or of custom. However, since the difference in prices which does obtain at the same points for potatoes from two competing regions varies erratically from point to point, and from season to season, and even from day to day, and since the data on such price differences are fragmentary and unreliable, they have been ignored in this study and the above assumption has been used as a basis for comparison.[5]

The same method was followed to establish the limits of the maximum theoretical advantage, except that the f.o.b. shipping point price was averaged for each of the five years for each region, that the two series were compared year by year, and that the greatest difference in average annual price between the two regions was selected as the price differential for conversion into freight cost. The limits of maximum theoretical advantage of one region, determined in this fashion, of necessity become the limits

[5] While the price differences between potatoes from competing regions are fairly steady and reasonably consistent in the large terminal markets, they show no uniformity whatever in small towns which buy only a few carloads each year. Furthermore, there are practically no data available covering price differences in these small places, yet it is the location of these small markets that determines the final limits of advantage between competing regions of production.

of minimum theoretical advantage of the competing region. To determine the limits of maximum theoretical advantage of the second region, the smallest difference in average annual f.o.b. price between the two regions was used as the price differential for conversion into freight cost and the boundary lines were established as explained above. This boundary line of maximum theoretical advantage in turn became the boundary line of minimum theoretical advantage of the first region.

The maximum seasonal price differential was calculated by averaging the price differences between the regions of those months which showed differences greater than the average monthly price differential for the whole period. The minimum seasonal price differential was calculated by averaging price differences of those months in which the difference was less than the average monthly price differential for the whole period. The difference between the average price differential for the whole period and that of the period when prices exceeded the general average was converted into freight costs.

The difference between the average price differential for the whole period and that of the period when prices were less than the general average was also converted into freight costs. The limits of the maximum and minimum average seasonal theoretical advantage were then established by the method already described.

The boundaries of the territories in which actual sales were made by each pair of competing regions were determined by locating a line through the outside boundaries of those counties most distant from each selling region. Boundaries established in this way showed considerable overlapping in certain sections. This procedure was followed to establish boundaries for the average sales of the five-year period, for the sales in the years of maximum and minimum crops, which gave the boundaries of average actual distribution, minimum actual distribution, and maximum actual distribution.

There are certain factors other than f.o.b. price and freight differentials, such as terminal market charges, brokerage charges, reconsignment charges, demand for seed potatoes and differences in quality and shrinkage, which influence to some extent the

territorial distribution of potatoes even in short-run operations. Terminal market charges on potatoes in the great wholesale centers identified with the main western and eastern potato growing regions have been largely absorbed by the railroads and are therefore of little effect. The reconsignment charge is more or less uniform throughout the nation and when assessed would affect the potatoes from each region in the same way. The brokerage and commission charges accruing after the f.o.b. price is established are more or less the same in local markets for potatoes from competing regions. While individual shippers frequently utilize the brokerage charge as a competitive device in certain small markets, there are no data whatever available covering such practices. Differences in price due to differences in quality are extremely difficult to evaluate because poor quality from one region one year may be more than offset by excellence of quality from the same region the next year. There are no data available except in the great terminal markets concerning price differences due to quality differences. Demand for certified seed grown in certain regions has modified the actual distribution maps in many southern states and in some northern sections. This demand, however, has little relation to price and does not, therefore, lend itself to any sort of price analysis. Shrinkage, which is an important factor in the marketing of livestock, is given little consideration in the marketing of potatoes largely because there has never been any careful study made of its amount. Farmers and shippers, when bagging their potatoes, usually place one to three pounds extra in each bag to make up for any shrinkage, and, since this is done regardless of the distance the potatoes are to be shipped, shrinkage is of little effect after the f.o.b. price is determined. Except to call attention to the existence of these other factors, their influence on the distribution of potatoes has therefore been ignored in this study.

While differences in the cost of producing potatoes in the different competing regions undoubtedly affect the extent of the market areas over a period of time, they would have little effect in a short-run operation such as this study is concerned with. On a short-run basis the price in any one year will be determined by

factors of total supply, size of crop in the given region, and in competing regions regardless of cost of production, and the market areas will be determined principally by price and freight differentials as previously stated. Furthermore, there are no reliable data, comparative or otherwise, covering costs of potatoes. Growers base their decisions to plant potatoes upon the custom of their region, adaptability of soil and equipment, the line of least resistance, and upon their estimates of the relative advantages of different crops, knowledge of such advantages consisting of general impressions. For these reasons a detailed study of production costs did not seem either feasible or desirable.

DESCRIPTION OF DATA

The data used in this study consist primarily of the statistical compilations made by representatives of the Market News Service of the Bureau of Agricultural Economics in their seasonal summaries of the production and distribution of potatoes in each of the potato growing regions. These reports contain detailed weekly f.o.b. shipping point prices and carlot prices in leading terminal markets, as well as lists of the primary destinations of carlot shipments corrected to show final destinations as reported by the rail carriers. These data cover the period of shipping from each region. The freight rates used are those which were in effect on the various railroads serving the regions studied during the five-year period, 1926–27 to 1930–31. They were determined from a detailed study of the railroad tariffs published by the agents of the New England Freight Association Territory, the Trunk Line Territory, the Central Freight Association Territory, the Southwestern and Southeastern Freight Association territories, and the Western Trunk Line Committee Territory. Through rates and commodity rates were used wherever they were in effect. Rail-water and rail-water-rail rates were used when studying shipments from New York and Maine into the South Atlantic states. Minimum rates were used in all cases.

The competition between Wisconsin and Maine potatoes.—Maine, which ships 25 per cent[6] of the annual commercial late potato

[6] This 25 per cent is the five-year average, 1927–31.

crop of the United States, lies at the extreme northeastern tip of the country and consequently must send its potatoes west and south to find a market. Wisconsin, which ships over 8 per cent of the total late commercial crop, lies just north and west of Chicago in the center of a great potato producing region and must ship through Chicago east and south to find a market. Minnesota, lying just west of Wisconsin, is directly between two great potato surplus producing regions, Idaho and Wisconsin, and must of necessity ship east and south to find a market. The railroads have given recognition to these facts by adjusting their rate structure in such a way that through rates on Minnesota potatoes destined to points east and south of Chicago are more or less the same as those on Wisconsin potatoes going to the same points. In some cases through rates on Minnesota potatoes to the more distant southern and eastern points are actually less than those on Wisconsin potatoes to the same points. Such conditions tend to identify Minnesota potatoes with those from Wisconsin in so far as the competition between Wisconsin and Maine is concerned. Minnesota and Wisconsin together ship an average of 20 per cent of the total late commercial crop. Thus the competition between Wisconsin and Minnesota potatoes on the one hand and Maine potatoes on the other involves approximately one-half the total late commercial potato crop.

In addition there are many potatoes shipped from Colorado, Nebraska, and Idaho for sale in Chicago and nearby markets, thereby releasing Minnesota and Wisconsin potatoes for competition with Maine potatoes in the more distant eastern and southern sections. This strategy on the part of the Chicago wholesale market is facilitated by the fact that the railroads concerned have granted liberal through rates on potatoes from Minnesota and Wisconsin to all points east and south of Chicago while the rates from other sections tend to break at Chicago. Any movement beyond Chicago in the latter case involves a new rate which makes shipment any distance from Chicago very expensive. The Chicago wholesale market is identified with the Wisconsin crop because practically all potatoes moving west and south of Chicago from any of these western producing regions are sold

through the Chicago wholesale dealers whether they enter the Chicago terminals and are reshipped or are shipped direct from the growing sections.

The average f.o.b. shipping point price differential.—In Table I are shown the annual average f.o.b. shipping point prices of potatoes at Waupaca, Wisconsin, as contrasted with the annual average f.o.b. shipping point prices at Presque Isle, Maine, for the five-year period, 1926–27 to 1930–31. The average for the whole period

TABLE I*

AVERAGE ANNUAL F.O.B. SHIPPING POINT PRICES OF WISCONSIN AND MAINE POTATOES FOR THE FIVE-YEAR PERIOD 1926–27 TO 1930–31

Year	Average f.o.b. Price, Waupaca, Wisconsin, per 100 Lb.	Average f.o.b. Price, Presque Isle, Maine, per 100 Lb.	Average Price Differential per 100 Lb.
1926–27	$1.94	$2.14	$0.20
1927–28	1.53	1.66	.13
1928–29	0.67	0.79	.12
1929–30	2.18	2.23	.05
1930–31	1.36	1.36	0.00
Average	$1.53	$1.63	$0.10

* Data from the seasonal potato crop reports of the Market News Service, United States Department of Agriculture.

is $1.53 per hundred for Wisconsin and $1.63 per hundred for Maine, which gives a differential of 10 cents per hundred pounds in favor of the Maine producer. This differential of 10 cents a hundred, when converted into freight cost, will permit Wisconsin potatoes to be shipped 10 cents' worth of mileage farther than Maine potatoes to sell for the same price in the same market.[7]

When Maine potatoes in a given consuming market cost $2.13 per hundred ($1.63 f.o.b. shipping point price plus 50 cents freight), Wisconsin potatoes, in order to compete on even terms in the same market, could cost $2.13 per hundred ($1.53 f.o.b. shipping point price plus 60 cents freight), the 10 cents additional freight being possible because of the f.o.b. price differential.

[7] Such potatoes could probably be shipped a bit farther due to differences in quality and price based on quality.

In Figure 2, the points at which local prices of Maine and Wisconsin potatoes have been equalized by converting the f.o.b. price differential into freight cost and adding it to the freight which Wisconsin potatoes could pay have been joined together and represented by the line AB. This line marks the boundary of the average potential distribution areas of these two competing regions. Theoretically, when the base price differential equals the average, Wisconsin potatoes cannot go eastward beyond this line except when they are sold in the final market at a premium over Maine potatoes equal to the difference in freight. Maine potatoes cannot go westward beyond this line except when sold at a premium over Wisconsin potatoes equal to the difference in freight.

The maximum and minimum f.o.b. price differential.—Table I reveals that during the five-year period, 1926–27 to 1930–31, the maximum differential for any one year between Wisconsin and Maine f.o.b. prices was 20 cents per hundred pounds and that this maximum differential occurred in 1926–27. This 20 cents, when converted into railroad mileage, extends the boundary of theoretical advantage of Wisconsin beyond the line AB, which represents a 10 cents differential to the line $A'B'$ (see Fig. 2). The line $A'B'$ delimits the region of maximum theoretical advantage of Wisconsin potatoes and at the same time becomes the boundary of minimum theoretical advantage of Maine potatoes. Likewise, the minimum annual price differential occurred in 1930–31 when the f.o.b. prices were exactly equal in the two growing regions. The base prices being equal means that the freight costs to the line of indifference would be equal also. The line of indifference, in this case marked XY, is the boundary of minimum theoretical advantage of Wisconsin potatoes and lies inside the line AB. Likewise, the line XY marks the boundary of maximum theoretical advantage of Maine potatoes. The area between lines $A'B'$ and XY represents the territory over which the limits of theoretical advantage between Maine and Wisconsin shifted during this five-year period. A glance at Table I shows that the price differential declined from 20 cents per hundred in 1926–27 to 0 in 1930–31. Since, according to the economic law of market areas, the freight differential must equal the price differential, the boundary of theoretical advantage has moved steadily westward

each year. This decline in size of price differential between Maine and Wisconsin may be due in part to the steadily increasing size of the Maine potato crop which forces a progressive lowering of the Maine f.o.b. price in order to enable Maine to ship potatoes longer distances in competition with Wisconsin potatoes.

It was found by inspection that the price differentials of each crop year were much greater during the latter part, January to April, than during the early part, September to December. When the average price differential during the five-year period 1926–27 to 1930–31 was calculated for each of these divisions, it was found to be 6 cents per hundred pounds in the early division, September to December, and 14 cents per hundred in the latter division, January to April, both in favor of Maine potatoes. This variation in price differential within the crop year may possibly be due to the very great volume of Maine potatoes coming on the market during the early part of the season.

The boundary of average theoretical advantage revealed in Figure 2 (line AB) does not show much resemblance to the hyperbolic curve described in Fetter's statement of the economic law of market areas, although it does bend slightly about the market of higher price (Maine), wherever the line of indifference is continuous. The size and shape of the market area in which Maine and Wisconsin potatoes compete, modified as it is by the Canadian border on the one hand and the Atlantic Ocean on the other, together with the existence of combination rail and water rates applicable in the case of many Maine potato shipments, probably account for this lack of resemblance.

Actual distribution of Wisconsin and Maine potatoes.—In Figure 2 the actual distribution of Wisconsin and Maine potatoes during the five-year period, 1926–27 to 1930–31, has been shown by counties. Each county which received an average of one carload or more of Maine potatoes annually during this period has been colored black, and each county which received an average of one carload or more of Wisconsin potatoes annually has been marked with parallel lines. The counties which received an average of one carload or more from each region have been marked with heavy black dots when Maine potatoes predominate and with triangles when Wisconsin potatoes predominate.

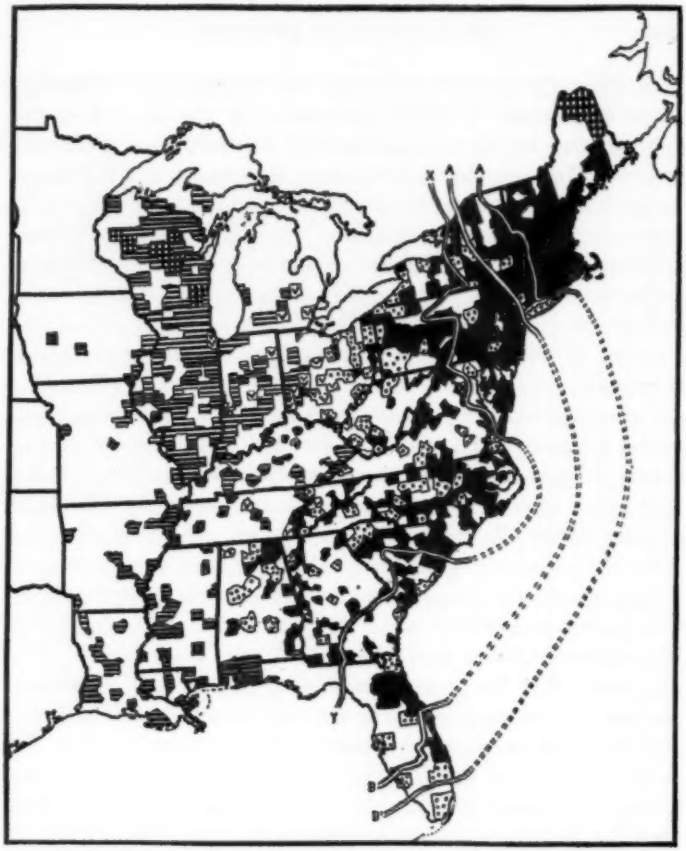

FIG. 2.—Actual distribution by counties of Maine and Wisconsin potatoes during the five-year period 1926–27 to 1930–31.

Principal counties in which Maine and Wisconsin potatoes are produced.

Counties in which an average of one carload or more of Maine potatoes were sold annually during 1926–27 to 1930–31.

Counties in which an average of one carload or more of Wisconsin potatoes were sold annually during this period.

Counties in which an average of one carload or more of both Maine and Wisconsin potatoes were sold annually but with Maine potatoes predominating.

Counties in which an average of one carload or more of both Wisconsin and Maine potatoes were sold annually but with Wisconsin potatoes predominating

The lines AB, $A'B'$, and XY mark the boundaries of average, maximum, and minimum theoretical distribution of Maine and Wisconsin potatoes as explained in Figure 3.

In Figure 3 the line *FG* marks the boundary of maximum actual distribution of Maine potatoes while the line *DE* marks the boundary of the minimum actual distribution of Wisconsin potatoes. The boundaries of average, maximum, and minimum theoretical advantage of these two regions have been redrawn in Figure 3 to facilitate comparison. The area marked by perpendicular lines is the territory in which both Maine and Wisconsin potatoes were sold during the crop year, 1929–30. The area marked by squares indicates the territory in which actual distribution of Wisconsin potatoes overlapped the area of maximum theoretical advantage of Maine potatoes. The chief reason for the great discrepancy between the boundary of maximum theoretical advantage and that of maximum actual distribution of Maine potatoes in this year was a very light Wisconsin crop and a very heavy Maine crop. The market area close to the Wisconsin growing region absorbed the small crop very easily, leaving the more distant area to be supplied from some other source. Maine, having an abundant supply, stepped into the gap. Furthermore, Wisconsin potatoes were small this year and of only fair quality while those of Maine were large and of very good quality, with the result that they commanded a premium over Wisconsin potatoes in any area in which the two came into competition. Shippers of Maine potatoes converted this premium due to quality into freight cost and shipped the potatoes as far beyond the boundary of theoretical advantage as the premium would carry them.

In Figure 4 the line *DE* marks the boundary of maximum actual distribution of Wisconsin potatoes, while the line *FG* marks the boundary of minimum actual distribution of Maine potatoes during the period, 1926–27 to 1930–31. This maximum and minimum distribution occurred in 1927–28. The area marked by perpendicular lines is that territory in which both Maine and Wisconsin potatoes were sold. While 1927–28 was only an average year for Wisconsin, it was a banner year for Minnesota, which in this year shipped more potatoes than in any other year, except one, in its history. These Minnesota potatoes supplied the markets in and near Chicago, releasing large quantities of Wisconsin

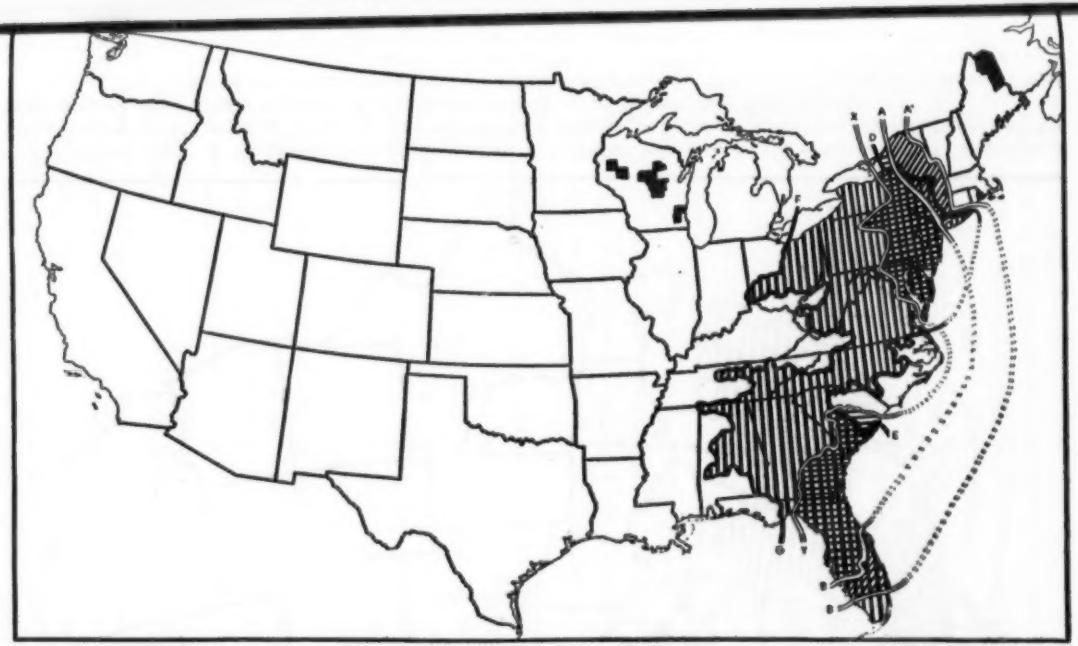

FIG. 3.—Boundaries of maximum actual distribution of Maine potatoes and minimum actual distribution of Wisconsin potatoes during the five-year period 1926–27 to 1930–31. The line *FG* marks the boundary of maximum actual distribution of Maine potatoes while the line *DE* marks the boundary of minimum actual distribution of Wisconsin potatoes.

The lines *AB*, *A'B'*, and *XY* mark the boundaries of average, maximum, and minimum theoretical distribution of Maine and Wisconsin. *AB* is the line of indifference between Wisconsin and Maine competition when the average f.o.b. price differential in favor of Maine potatoes has been converted into freight cost and added to the freight Wisconsin potatoes can pay. This line marks the boundary of the average potential distribution areas of these two competing regions. The line *A'B'*, calculated in the same manner but on the basis of the maximum f.o.b. price differential, marks the boundary of maximum and minimum theoretical distribution areas of Wisconsin and Maine potatoes, respectively. The line *XY*, calculated on the basis of the minimum f.o.b. price differential, is the boundary of minimum and maximum theoretical distribution of Wisconsin and Maine potatoes, respectively.

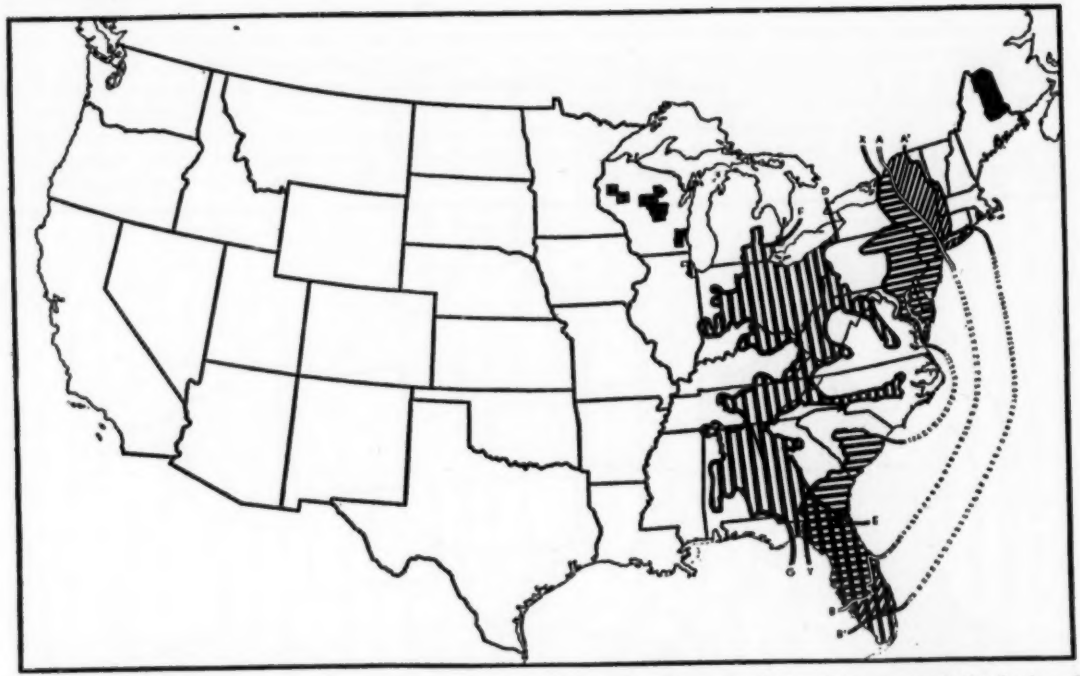

FIG. 4.—Boundaries of the maximum actual distribution of Wisconsin potatoes and the minimum actual distribution of Maine potatoes during the period 1926–27 to 1930–31. The line *DE* marks the boundary of maximum actual distribution of Wisconsin potatoes, while the line *FG* marks the boundary of minimum actual distribution of Maine potatoes.

The line *AB* is the line of theoretical indifference between Maine and Wisconsin. The line *A'B'* marks the boundary of maximum and minimum theoretical distribution areas of Wisconsin and Maine potatoes, respectively. The line *XY* is the boundary of minimum and maximum theoretical distribution of Wisconsin and Maine, respectively.

potatoes for shipment farther east. The Maine shipments were the smallest of any year during the period studied.

The areas of actual distribution, when studied in relation to the areas of potential distribution, indicate that the actual distribution of Maine has extended westward beyond the boundaries of theoretical advantage for Maine potatoes, and that the actual distribution of Wisconsin potatoes has not extended eastward as far as the boundary of theoretical advantage for Wisconsin potatoes, except in the case of Long Island and southern Florida.

In attempting to explain the failure of the actual areas to check with the potential, attention should be called to the fact that these maps do not indicate the relative density of distribution but simply mark the outside boundaries. When it is recalled that the sales of potatoes by each competing region are very heavy near the center of its respective market, the sales gradually thinning out as the outside boundary is approached, it becomes evident that the picture presented in the figures is not complete (see Tables II–VI).

Table II shows the totals and percentages of total Maine shipments which were sold within the territory of minimum theoretical distribution during each year for the period, 1926–27 to 1930–31 (see Fig. 4 also in this connection). This table shows that the percentage unloaded within the territory of minimum theoretical advantage increased from 31 per cent in 1926–27 to 45.7 per cent in 1928–29 and then declined to 26.1 per cent in 1930–31. It also shows that the percentage of Maine sales beyond the boundary of minimum theoretical distribution decreased from 69 in 1926–27 to 54.3 in 1928–29, and then increased during the last two years to 73.7 per cent in 1930–31. The increase in percentage of Maine sales beyond the territory of minimum theoretical distribution is accounted for in part by the reduced Wisconsin crop during these last two years.

Table III shows the total shipments of Maine potatoes within the territory of average theoretical distribution (see Fig. 3, line *AB*). This table shows that something over 50 per cent of Maine sales were made within the territory of average theoretical distribution while Table IV shows that an average of over 83 per

minimum and maximum theoretical distribution of Wisconsin and Maine, respectively.

cent of total Maine sales were made within the territory of maximum theoretical distribution.

TABLE II

TOTAL CARLOAD SHIPMENTS OF MAINE POTATOES SOLD WITHIN THE TERRITORY OF MINIMUM THEORETICAL DISTRIBUTION, 1926–27 TO 1930–31*

State	1926–27	1927–28	1928–29	1929–30	1930–31
Maine	783	706	738	281	345
New Hampshire	286	358	387	465	169
Vermont	38	39	159	86	16
Massachusetts	5,521	7,049	8,681	8,988	8,240
Rhode Island	973	1,164	1,152	1,536	1,278
Connecticut	1,670	2,030	1,864	2,379	1,723
New York	621	841	855	990	655
Florida	127	76	148	158	107
Total shipments in minimum theoretical territory	10,029	12,266	14,028	14,888	12,537
Total Maine shipments	32,254	30,450	30,660	50,320	47,600
Per cent unloaded in minimum theoretical territory	31.0	40.0	45.7	29.5	26.1

* The shipments to each state are those made during the eight months of heaviest movement, as are also the total shipments given. Data for all twelve months were not available. However, the proportion or percentage is probably the same as for the whole year. Data taken from the seasonal reports of the movement of Maine potatoes published by the United States Department of Agriculture, Bureau of Agricultural Economics.

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TOTAL CARLOAD SHIPMENTS OF MAINE POTATOES WITHIN THE TERRITORY OF AVERAGE THEORETICAL DISTRIBUTION FROM 1926–27 TO 1930–31

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Rhode Island	973	1,164	1,152	1,536	1,278
Connecticut	1,670	2,030	1,864	2,379	1,723
New York	8,813	8,713	7,814	15,011	10,472
Florida	407	188	377	391	365
Total	18,501	20,247	21,172	29,037	22,608
Total Maine shipments September through April	32,254	30,450	30,660	50,320	47,600
Percentage total Maine shipments unloaded in average theoretical territory	57.3	66.5	69.0	57.7	49.5

TABLE IV*

TOTAL CARLOAD SHIPMENTS OF MAINE POTATOES WITHIN AND WITHOUT THE MAXIMUM THEORETICAL TERRITORY OF DISTRIBUTION, 1926–27 TO 1930–31

State	1926–27	1927–28	1928–29	1929–30	1930–31
	Amounts Distributed within Maximum Theoretical Territory				
Me., N.H., Vt., Mass., Conn., R.I., N.J., Del., and D.C.	11,952	13,628	14,674	18,537	14,739
New York	9,395	9,579	8,413	15,674	11,086
Pennsylvania	2,694	1,552	970	3,591	3,388
Maryland	495	227	156	1,003	1,450
Virginia	518	490	517	424	614
South Carolina	382	549	248	359	327
Georgia	558	371	572	681	500
Florida	1,210	903	1,138	1,237	1,001
Total sold in maximum theoretical territory	27,204	27,299	26,788	41,508	33,105
Percentage of total Maine shipments September to April	84.7	89.3	87.3	83.5	69.7
	Amounts Distributed outside Maximum Theoretical Territory				
New York	198	86	77	238	493
Pennsylvania	1,680	868	1,182	3,391	5,247
Maryland	31	28	12	44	118
Virginia	504	467	442	727	1,093
South Carolina	43	33	42	52	37
Georgia	173	147	195	244	205
Ohio	1,047	442	818	2,253	3,164
West Virginia	124	73	107	351	830
North Carolina	606	625	470	560	536
Tennessee	68	59	98	99	83
Alabama	93	77	102	180	68
Texas†	216	210	258	173	129
Others	69	25	100	397	2,403
Total sold outside maximum theoretical territory	4,852	3,150	3,903	8,709	14,406
Percentage of total Maine shipments sold outside maximum theoretical territory	15.3	10.7	12.7	16.5	30.3
Total Maine shipments September to April	32,254	30,450	30,660	50,320	47,600

* Data taken from the seasonal reports of the movement of Maine potatoes published by the United States Department of Agriculture Bureau of Agricultural Economics.

† Mostly seed potatoes.

Table V (*a*) shows the extent to which actual Maine potato sales overlap Wisconsin sales when the actual territories were at the maximum and minimum respectively (see Fig. 3). Most of this overlapping took place in three states, Ohio, Pennsylvania, and Florida, which together account for approximately three-fourths of the total overlapping. In 1930–31 there was a large overlapping in Michigan, mostly in Detroit, on account of the shortage of the Michigan crop in that year.

Table V (*b*) shows the extent of overlapping of Maine sales when the actual Maine territory was at its minimum and the

TABLE V

MAINE CARLOAD SALES OVERLAPPING WISCONSIN SALES WHEN (*a*) THE ACTUAL MAINE AND WISCONSIN SALES TERRITORIES WERE AT THE MAXIMUM AND MINIMUM, RESPECTIVELY; AND (*b*) VICE VERSA, 1926–27 TO 1930–31

Years	1926–27	1927–28	1928–29	1929–30	1930–31
	a				
Total carloads	5,017	2,961	4,242	8,681	12,477
Percentage of total Maine shipments	15.5	6.7	13.8	17.2	26.2
	b				
Total carloads	21,991	13,164	16,900	35,802	34,898
Percentage of total Maine shipments	68.1	59.6	55.1	71.1	73.3

Wisconsin territory was at its maximum (see Fig. 4). Most of the overlapping took place in Ohio, Pennsylvania, Florida, New York, New Jersey, and Virginia, these six states together accounting for four-fifths of the total overlapping.

The extent to which Wisconsin sales have overlapped Maine sales is shown in Table VI to have been much less in volume and in percentage of total sales than the overlapping of Maine sales into Wisconsin territory. Two states, Pennsylvania and Ohio, account for three-fourths of the overlapping of Wisconsin sales

when Wisconsin territory was at the maximum (see Fig. 4), and for four-fifths of the total overlapping when Wisconsin territory was at the minimum (see Fig. 3).

An average of 99 per cent of all Wisconsin potatoes were sold within the boundaries of minimum theoretical distribution. The lowest percentage in any one year during the five-year period, 1926–27 to 1930–31, was 98 and the highest was 99.5. Practically all of Wisconsin's potatoes were sold within the territory of average theoretical distribution, the smallest percentage for any one year being 99.7 in 1926–27. In no one year of the period under

TABLE VI

WISCONSIN CARLOAD SALES OVERLAPPING MAINE SALES WHEN (*a*) THE ACTUAL WISCONSIN AND MAINE SALES TERRITORIES WERE AT THE MAXIMUM AND MINIMUM, RESPECTIVELY, AND (*b*) VICE VERSA, 1926–27 TO 1930–31

Years	1926–27	1927–28	1928–29	1929–30	1930–31
	a				
Total carloads	1,338	2,911	1,072	1,060	549
Percentage of total Wisconsin shipments	10.8	28.5	11.5	10.4	8.4
	b				
Total carloads	1,012	2,581	1,031	1,092	551
Percentage of total Wisconsin shipments	8.1	25.3	11.4	10.5	8.5

study did more than seven carloads of Wisconsin potatoes go beyond the boundary of maximum theoretical distribution. These seven carloads were probably seed potatoes.

The conclusion to be drawn from the tables is that the actual distribution of Maine potatoes has been progressively beyond the limits of theoretical distribution, while the actual sales of Wisconsin potatoes barely came up to the boundary of average theoretical distribution.

The extension of the boundaries of actual distribution of Maine

potatoes beyond the boundaries of theoretical advantage may be accounted for by two facts. Most of the sales of Maine potatoes west of the boundary of theoretical advantage took place in years of very large crops in Maine with correspondingly poor crops in Wisconsin. With huge supplies of potatoes on hand, certain large Maine growers shipped part of their surpluses direct without the intervention of local middlemen to establish an f.o.b. quotation. These sales of surplus potatoes were frequently made for a smaller base price than sales to the regular markets nearer at hand.[8] This lower base price permitted the payment of heavier freight costs, thereby making it possible for the shippers to penetrate more distant territory. Furthermore, in the calculation of the boundaries of theoretical advantage, average f.o.b. prices were used as a basis. These average f.o.b. prices were obtained by averaging the weekly high and low f.o.b. price quotations for the period under consideration. To the extent that the low f.o.b. prices were used to penetrate distant markets, the result would be a discrepancy between the boundaries of the actual market territory and the theoretical market territory based on average f.o.b. prices.

The other fact which helps account for extension of actual sales of Maine potatoes beyond the boundary of theoretical advantage is the premium larger markets such as Pittsburgh, Cleveland, and Akron have been willing to pay for Maine potatoes.[9] Such a premium, when converted into freight cost, enables Maine potatoes to penetrate territory far beyond the boundaries of theoretical advantage. However, while the larger towns and cities have frequently paid this premium, the small towns in the rural counties will not pay it and the only way that Maine potatoes can reach rural towns outside the boundaries of theoretical advantage, except as noted below, is for growers and dealers to shade the base price to make up increased freight cost.

Another factor which helps extend the boundaries of actual

[8] W. H. Hall, Bureau of Agricultural Economics, and E. J. Halleck, Albert Miller & Co., in conversation with the writer.

[9] Dealers declare this premium to have been as much as 20–30 cents a hundred pounds at times.

sales of Maine potatoes is the demand in Alabama, Georgia, Tennessee, parts of South Carolina, and other southern states for seed stock grown in Maine. Supplying such demand bears little relation to boundaries based on price differentials because this demand is based upon other factors than price.

The principal reason why actual distribution of Wisconsin potatoes does not extend as far east as the boundaries of theoretical distribution, when in competition with Maine potatoes, is the presence of the New York potato growing region in Wisconsin's theoretical territory and the location of the Michigan growing region just on the edge of Wisconsin's theoretical territory. The New York and Michigan crops supply much of this territory, since nearness of the producing regions to consuming markets obviates the heavy freight costs. Wisconsin potatoes actually penetrate much of this territory despite the New York and Michigan crops.

The competition between Michigan and New York potatoes.—While no Michigan potatoes are shipped to Chicago for reconsignment to other points, a very large proportion of the Michigan crop is sold through Chicago dealers and shipped direct from growing region to destinations. This identification of Chicago with the Michigan crop makes it advisable to analyze the competition between Michigan and New York, since they both contend for sales in a part of the same area in which Maine and Wisconsin potatoes are sold.

The same plan was followed in analyzing the competition between Michigan and New York as was used in analyzing that between Wisconsin and Maine. Using the f.o.b. shipping point quotations as base prices, differentials were calculated and converted into freight cost in order to find the line of indifference between the two regions and to establish boundaries of theoretical distribution for each region respectively.

The average f.o.b. shipping point price differential.—Table VII shows that the average price differential between annual average f.o.b. shipping point prices of New York potatoes at Rochester and Michigan potatoes at Cadillac during the four-year period 1927–28 to 1930–31 was 14 cents per hundred pounds in favor of

New York potatoes. The maximum price differential was 23 cents per hundred and occurred in 1927–28, while the minimum differential was zero in 1929–30, in which year the average f.o.b. prices were equal.

The variation in price differential between the early and late part of the crop year was very small, at no time being more than 3 cents and averaging less than 2 cents per hundred.

The high differentials of 1927–28 and 1928–29 shown in Table VII can be accounted for by the fact that Michigan had very large

TABLE VII*

AVERAGE ANNUAL F.O.B. SHIPPING POINT PRICES OF MICHIGAN AND NEW YORK POTATOES FOR THE FOUR-YEAR PERIOD, 1927–28 TO 1930–31

Year	Average f.o.b. Price, Rochester, N.Y., per 100 Lb.	Average f.o.b. Price, Cadillac, Mich., per 100 Lb.	Average Price Differential in Favor of Rochester, per 100 Lb.
1927–28	$1.92	$1.69	$0.23
1928–29	0.96	0.74	.22
1929–30	2.44	2.44	.00
1930–31	1.52	1.40	0.12
Average	$1.71	$1.57	$0.14

* Calculated by averaging the low and high weekly f.o.b. prices as quoted in the seasonal summaries of the different growing regions published in mimeographed form by the Market News Service of the Bureau of Agricultural Economics.

crops in those years, and, because of pressure of heavy supplies from Wisconsin and Minnesota, had to sell in territory near the New York growing region. In order to compete with potatoes from nearby New York the potatoes from more distant Michigan had to sell at a lower base price to make up for the higher freight cost. The prices of the last two years in Michigan behaved differently because the Michigan crop was practically a failure and the pressure for markets was less.

In Figure 5 the line of indifference (AB) between Michigan and New York competition marks the boundary of average theoretical advantage for these two regions during the four years 1927–28 to 1930–31. The line $A'B'$ marks the boundary of maximum theoretical advantage of Michigan potatoes and by virtue

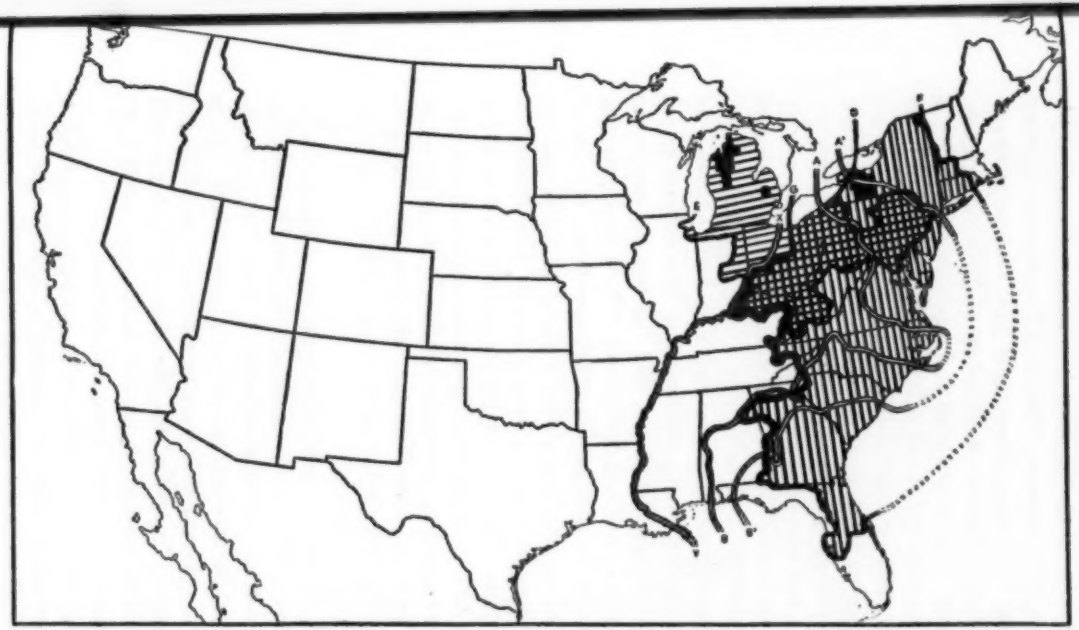

FIG. 5.—Boundaries of maximum actual distribution of New York potatoes and minimum actual distribution of Michigan potatoes during the four-year period 1927–28 to 1930–31. The line *FG* marks the boundary of maximum actual distribution of New York potatoes, while the line *DE* marks the boundary of minimum actual distribution of Michigan potatoes. The area marked with horizontal lines is the territory in which Michigan potatoes only were sold, while the area marked with perpendicular lines is the territory in which New York potatoes only were sold. The area marked with squares is the territory in which both Michigan and New York potatoes were sold.

The lines *AB*, *A'B'*, and *XY* mark the boundaries of average, maximum, and minimum theoretical distribution of Michigan and New York potatoes calculated in the same manner as that explained in Figure 3. The line *AB* marks the boundary of average theoretical advantage of Michigan and New York potatoes. It is the line of indifference. The line *A'B'* marks the boundary of maximum and minimum theoretical distribution of Michigan and New York potatoes, respectively, while the line *XY* marks the boundary of maximum and minimum theoretical distribution of New York and Michigan potatoes, respectively.

of that fact also marks the boundary of minimum theoretical advantage of New York potatoes. The line *XY* marks the boundary of the maximum theoretical advantage of New York potatoes and also of the minimum theoretical advantage of Michigan potatoes.

The boundary of average theoretical advantage (line *AB*) in Figure 5, when considered in two parts separately, one part based on all rail rates and the other based on rail-water-rail rates, reveals a tendency to bend about the region of higher price (New York). While the topography of the country in which these regions compete and the presence of rail-water-rail rates modify the shape of the curve somewhat, it conforms with the law of market areas sufficiently to demonstrate its application.

Actual distribution of Michigan and New York potatoes.—In Figure 5, the line *DE* marks the boundary of minimum actual distribution of Michigan potatoes, and the line *FG* marks the boundary of maximum actual distribution of New York potatoes. This figure shows the distribution which took place in 1930–31 when the Michigan crop was almost a complete failure and the New York shipments were the largest of any year during the period under study. The area marked by squares is the territory in which both New York and Michigan sold potatoes in 1930–31, while the area marked by perpendicular lines is the territory in which New York but not Michigan sold potatoes. The area marked by parallel lines is the territory in which Michigan but not New York sold potatoes.

In Figure 6, the line *DE* marks the boundary of maximum actual distribution of Michigan potatoes and the line *FG* marks the boundary of minimum actual distribution of New York potatoes. The area marked by squares is the territory in which both regions sold potatoes in 1928–29, while the area marked by perpendicular lines is the territory in which New York but not Michigan sold potatoes. The area marked by parallel lines is the territory in which Michigan but not New York sold potatoes.

The line *DE* describes a circle about Michigan except for a narrow area extending down the Mississippi River to the Gulf. This strip of territory is not as important as the figure seems to indicate, since the density of distribution within it is neither con-

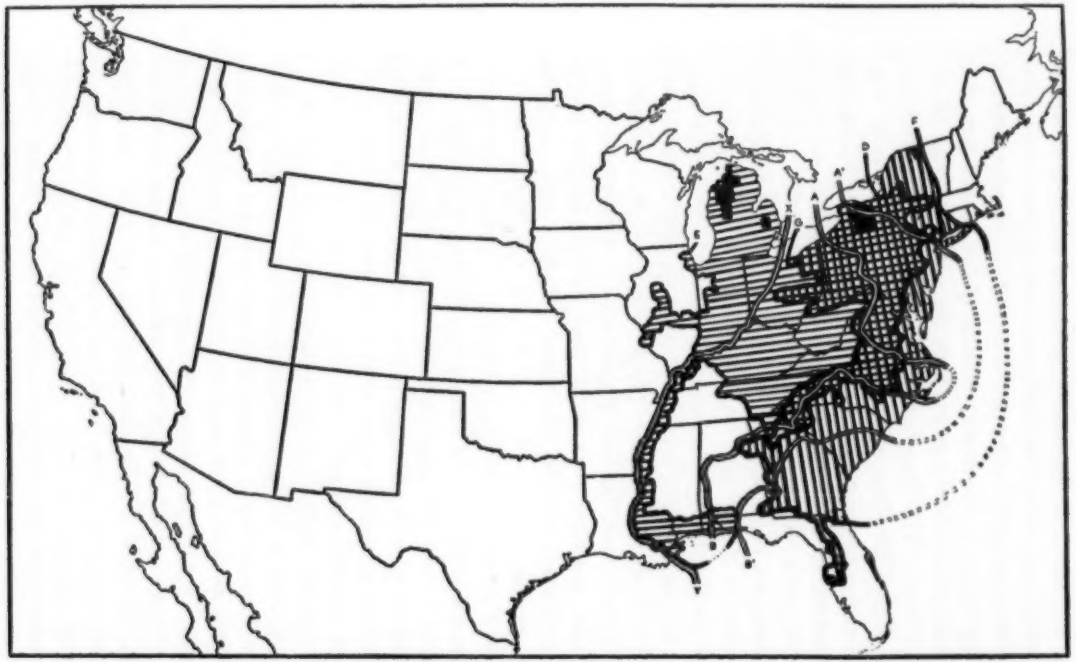

FIG. 6.—Boundaries of maximum actual distribution of Michigan potatoes and minimum actual distribution of New York potatoes during the period 1927–28 to 1930–31. The line *DE* marks the boundary of maximum actual distribution of Michigan potatoes, while the line *FG* marks the boundary of minimum actual distribution of New York potatoes.

The lines *AB*, *A'B'*, and *XY* mark the boundaries of average, maximum, and minimum theoretical distribution of Michigan and New York potatoes as explained in Figure 5.

tinuous nor heavy. It is partially accounted for by peculiarities of the freight-rate structure which uses certain river crossings as basing points, and which takes note of potential water competition. The irregularity of the line in Illinois is due to the fact that Peoria and certain nearby points have the same rate from Michigan as Chicago. The direction of the line *DE* was influenced, especially from Virginia westward, by the competition of Wisconsin potatoes (see Fig. 7). The direction of the line *FG* likewise was influenced by the competition of Maine potatoes (see Fig. 2) and by the presence of rail-water-rail rates.

A comparison of Figures 2, 5, 6, and 7 shows how the distribution territories of Michigan and New York are within the territories of distribution of Wisconsin and Maine. This fact explains some of the peculiarities in the outlines of the actual distribution territories of all four regions. These figures together show also how Wisconsin and Michigan distribution combines to compete with Maine and New York distribution, thus helping to justify the identification of both Michigan and Wisconsin with the Chicago market.

Figure 6 shows the distribution in 1928–29 when Michigan's crop was the largest of any year during the four-year period and New York's crop was about average. There was a base price differential of 22 cents a hundred in favor of New York which gave Michigan an advantage of 22 cents a hundred in freight rates. Michigan actually sold quantities of potatoes in New York State even in the very sections in which New York grows potatoes.

This pressure of Michigan potatoes eastward into New York is in line with the general tendency of all late potatoes, except those from Maine, to move toward the east. Although the railroad-rate structure in general encourages this eastward pressure, some of the movement is against rates designed to encourage a contrary flow, as, for example, that of Michigan and New York. The freight-rate structure gives Michigan potatoes an advantage in rates when shipped south and west,[10] but the pressure eastward gives a base price differential which, when converted into freight cost, turns the movement of Michigan potatoes eastward (see

[10] *Special Bulletin No. 137*, Agricultural Experiment Station, Michigan Agricultural College, 1925.

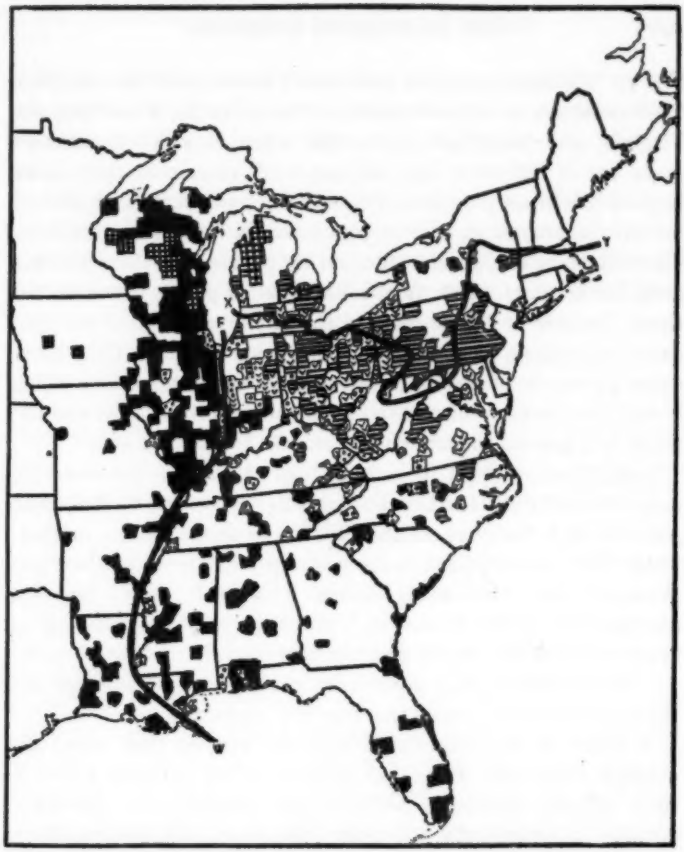

FIG. 7.—Actual distribution by counties of Wisconsin and Michigan potatoes during the five-year period 1926–27 to 1930–31.

Principal counties in which Wisconsin and Michigan potatoes were produced.

Counties in which an average of one carload or more of Wisconsin potatoes were sold annually during this period.

Counties in which an average of one carload or more of Michigan potatoes were sold annually during this period.

Counties in which one carload or more of both Wisconsin and Michigan potatoes were sold annually but with Wisconsin potatoes predominating.

Counties in which one carload or more of both Wisconsin and Michigan potatoes were sold annually but with Michigan potatoes predominating.

The line *XY* marks the boundary of maximum theoretical distribution of Michigan potatoes and also of minimum theoretical distribution of Wisconsin potatoes. The line *FW* connects the points at which freight rates from Wisconsin and Michigan were equal. (No allowance was made for difference in base price in establishing this line.)

Fig. 7). Michigan potatoes move many more miles than do New York potatoes to undersell them in Pennsylvania, West Virginia, Virginia, and Maryland. It is only when New York potatoes make use of rail-water and rail-water-rail rates that they move beyond Michigan potatoes. This eastward pressure is accounted for by the greater density of population in the eastern sections. There is, therefore, greater demand for potatoes in these sections and, furthermore, there is a willingness to pay a premium for them. Outside of Maine most of the late-crop potatoes are produced in regions west of great population centers. Thus there exists a pressure of surplus potatoes in the western sections which is met by a pressure of demand from the eastern sections and the result is a general movement of potatoes toward the east.

Competition between Wisconsin and Michigan potatoes.—In order to clarify still further the competitive position of Wisconsin potatoes and, therefore, of the Chicago wholesale potato market, Table VIII was compiled to show base price differentials between Wisconsin and Michigan potatoes. This table shows that the average f.o.b. price differential between these two regions was 15 cents per hundred during the five-year period, 1926–27 to 1930–31. The maximum price differential was 18 cents per hundred and the minimum was 9 cents per hundred pounds.

A study of the freight-rate structure reveals that, when the average differential of 15 cents per hundred is converted into railroad mileage, Wisconsin potatoes can compete with Michigan potatoes at practically any point east of the Mississippi River, including parts of Michigan itself. The freight-rate differential between Wisconsin and Michigan potatoes at Detroit is only 11 cents per hundred, which gives Wisconsin potatoes an advantage of 4 cents a hundred pounds in Michigan's principal city.

In Figure 7 the line *XY* marks the boundary of maximum theoretical distribution of Michigan potatoes and of minimum theoretical distribution of Wisconsin potatoes. This figure shows that the only territories in which Michigan has even a minimum theoretical advantage are upper Michigan, a tiny corner of Ohio, central Pennsylvania, northeastern West Virginia, western Maryland, western and northern New York, Vermont, New Hampshire, and Maine. In the latter three states neither Wisconsin nor

Michigan actually sells any potatoes. Within most of this territory the difference in freight cost is just 9 cents and at no point except in parts of Michigan is the difference more than 11 or 12 cents per hundred.

FW marks the line of indifference between Wisconsin and Michigan potatoes when the freight rates alone are considered. This line connects the points at which the freight rates from the two regions are equal. Because of blanketed rates in certain parts

TABLE VIII

ANNUAL AVERAGE F.O.B. AND DIFFERENTIAL PRICES OF MICHIGAN AND WISCONSIN POTATOES FROM 1926–27 TO 1930–31

Year	Average f.o.b. Price, Cadillac, Mich., per 100 Lb.	Average f.o.b. Price, Waupaca, Wis., per 100 Lb.	Average Price Differential in Favor of Cadillac, per 100 Lb.
1926–27	$2.12	$1.94	$0.18
1927–28	1.68	1.53	.15
1928–29	0.75	0.66	.09
1929–30	2.35	2.18	.17
1930–31	1.39	1.22	0.17
Average	$1.65	$1.50	$0.15

of Illinois this line should perhaps be a zone. Its location emphasizes how easy it is to be misled by studying freight rates and freight differentials without also taking into consideration base prices. Although *FW* marks the line on which actual freight rates are equalized, Wisconsin potatoes compete with Michigan potatoes in all the territory between this line and the Atlantic seaboard.

Actual distribution of Wisconsin and Michigan potatoes.—In Figure 7 the actual distribution of Wisconsin and Michigan potatoes is shown by counties. Counties receiving Wisconsin potatoes have been marked black, while those receiving Michigan potatoes are marked with horizontal lines. Counties in which potatoes from both regions have been sold are marked with heavy black dots when Wisconsin potatoes predominate and with triangles when Michigan potatoes predominate. From this map it would appear that there was practically no substantial region in

which Michigan potatoes were without competition from Wisconsin potatoes.

The distribution of Colorado and Nebraska potatoes.—A study of the actual distribution of Colorado potatoes by counties showed that sales were concentrated in Colorado, Kansas, Oklahoma, and Texas, with rather heavy sales between these states and the Mississippi River. A similar study of the distribution of Nebraska potatoes showed that the sales were concentrated in Nebraska, with fairly heavy sales in Oklahoma, Arkansas, and Louisiana. The pressure of Colorado and Nebraska potatoes for a market in Nebraska, Kansas, Oklahoma, Texas, Arkansas, and Louisiana helps to explain why Wisconsin and Minnesota persist in seeking an outlet east of the Mississippi River.

The distribution of Idaho potatoes—A study of the actual distribution by counties of Idaho potatoes from 1926–27 to 1929–30 showed that a fair volume of sales was made in every state of the union, except Maine, Vermont, and North Dakota. A few carloads were sold in each of these three states also, but the sales were so scattered that no single county could be selected which purchased an average of one carload or more annually during this period. While Idaho made heavy sales in California, Nebraska, Kansas, Oklahoma, and Texas, fully one-third of all her shipments were sold east of the Mississippi River. Most of these sales east of the Mississippi River were handled through the Chicago market.

The wide distribution of Idaho potatoes is due principally to their superior quality. Idaho potatoes rate the finest in the United States and the premium paid for this quality enables them to overcome the long distances. Their early adoption by railroads for use on diners and by large hotels for baking has served to spread their fame throughout the country. Chicago being one terminus of practically every important railroad in the country, she early developed a market for the Idaho Russet, "the potato of quality." Idaho potatoes are practically the only kind of potatoes which have received direct competitive advertising which has been paid for as advertising. Some growers and certain Chicago dealers have advertised them directly. Idaho potatoes sell more easily than any other kind and the profit margins are greater.

CHAIN, VOLUNTARY CHAIN, AND INDEPENDENT GROCERY STORE PRICES, 1930 AND 1934

CHARLES F. PHILLIPS[1]

EARLY in the month of October, 1930, the writer personally visited the chain grocery stores, voluntary chain grocery stores, and independent grocery stores of five towns in central New York State to obtain factual material to be used as a basis for a comparison of prices among these three types of stores.[2] In each store prices were obtained on a number (75) of standard grocery items, the great majority of them being branded (68 out of 75), these prices being recorded on printed forms. Upon detailed analysis of the price quotations for 63 of the 75 items (12 were dropped because of a lack of a sufficient number of quotations), it was found that the chain stores were giving a saving of 12.3 per cent as compared with the independent stores, while the voluntary chain members were underselling the independents by approximately 3 per cent.[3]

In order to test the validity of the 63 items which were used as a basis of comparison, i.e., validity in the sense of being good indicators of the price differentials which actually exist throughout all the branded goods carried, a weighted index was made for one of the five towns (Earlville). In this town the unweighted index of the percentage savings of the chain over the independent was found to be 11 per cent. With the co-operation of one of the chains operating stores in this section of New York State, dollar sales figures were obtained for the preceding three months on each of the 63 items. After putting these sales on a per store basis, the

[1] Dr. Phillips is an instructor in economics at Colgate University.

[2] The five towns and their populations: Canastota, 4,235; Cazenovia, 1,788; Earlville, slightly under 1,000; Hamilton, 1,700; Sherburne, 1,077.

[3] This study was partially reported in *Chain Store Progress*, May, 1931. In this report the chain saving over the independent was given as 10.7 per cent, the difference between this figure and the 12.3 per cent given above being due to the method of computation. The writer now feels that the method used in this present report, and giving 12.3, is more accurate.

sales were used as weights and a weighted index was constructed. This index showed the chains underselling the independents by 12.06 per cent, as against 11 per cent for the unweighted index. Owing to the close agreement between the weighted and the unweighted index for this one town, it was felt that the unweighted figure of 12.3 per cent was a reasonably good measure of the price differential on branded goods between the chain and independent stores of these five towns. It should be noted, however, that the writer made no claims that this differential was true for the prices of *all* goods carried in grocery stores, as the study was concerned practically entirely with branded items.

In the writer's opinion the chief significance of this 1930 study was to be found in the fact that it was the first to compare chain and independent store prices in small towns. Until this study was published, actual data on chain and independent prices existed only for such cities as New York, Chicago, Durham (North Carolina), and a few others.[4] That the chain, which is probably better suited to city than to small-town operation, was giving practically the same saving over the small-town grocer as it was over the city merchant was considered a significant fact.

Exactly four years later (October, 1934) the writer again visited the stores in these same five towns and obtained price quotations on the identical list of 75 items. The purpose of remaking this study was to see if the intervening years had brought about any change in the competitive price position of the chain, voluntary chain, and independent stores. Had the prices charged by each shown any tendency to become the same? Especially, were the voluntary chains meeting chain-price competition with better success; i.e., were they better accomplishing their aim? Or, had four years still left the chain with its significant 1930 price differential?

Table I presents the basic information necessary for an answer to these questions. Here 1,313 price quotations on 52 items (all but 4 being branded items) for both 1930 and 1934 are presented. The prices are in the form of average prices (arithmetic average)

[4] M. D. Taylor, "Prices in Chain and Independent Grocery Stores in Durham, North Carolina," *Harvard Business Review*, VIII, No. 4 (July, 1930), 413; *Journal of Commerce*, November 15, 1930.

for independent, voluntary, and chain grocery stores. It was found necessary to reduce the original list of 75 items to those given in this table in order to get items carried by a sufficient number of stores in both 1930 and 1934. This table also presents the percentage saved on each item in the voluntary chain as compared with the independent, and in the chain as compared with the independent.

The main changes portrayed in this table may be summarized as follows: From 1930 to 1934 the chain's competitive price position on branded goods as compared with both the voluntary chain and the independent has been somewhat weakened, but the savings still offered by the chain are significant.[5] The change in the position of the voluntary chain, as compared with the independent, has been toward increasing the advantage of the former. The following analysis will verify these statements.

Considering just the 52 items included in Table I, the chains and voluntary chains were underselling the independents in 1930 by 12.82 and 3.11 per cent, respectively.[6] In October of 1934 on identical items of merchandise the voluntary chain's competitive position had been aided by an advance in its saving over the independent to 3.63 per cent, while the chain's advantage had fallen to 10.02 per cent.[7] Again, in 1930 the chain was underselling the independent by 10 per cent or more on 34 of the 52 items. In October, 1934, this was true of but 26, or exactly one-half, of the items. On the other hand, the voluntary chain in the former year had a 5 per cent or more advantage on but 13 of the 52 items (advantage as compared with the independent grocer). By 1934 this number had been increased to 19, a gain of 46 per cent.

Table II puts this matter still another way. In 1930 both the voluntary chain and the independent store prices on *all* 52 items

[5] For a study of chain and independent grocery prices showing this same conclusion to be true in city areas, cf. M. D. Taylor, "Prices of Branded Grocery Commodities during the Depression," *Harvard Business Review*, XII, No. 4 (July, 1934), 437.

[6] Obtained by dividing the totals of columns (13) and (11) of Table I by the number of items; i.e., 52.

[7] Obtained by dividing the totals of columns (12) and (14) of Table I by the number of items.

TABLE I

INDEPENDENT, VOLUNTARY CHAIN, AND CHAIN GROCERY STORE PRICES, 1930 AND 1934

ITEM	(1) UNIT	(2) (3) (4) NUMBER QUOTATIONS (1934)			(5) (6) (7) (8) (9) (10) AVERAGE PRICE IN CENTS (MEAN)						(11) (12) (13) (14) PERCENTAGE SAVED IN—			
					Independent		Voluntary Chain		Chain		Voluntary Chain Over Independent		Chain Over Independent	
		Independent	Voluntary Chain	Chain	1930	1934	1930	1934	1930	1934	1930	1934	1930	1934
Baking-powder, Davis	12 oz.	7	7	15	22.97	21.1	21.6	19.3	20.95	19.3	5.96	8.53	8.79	8.53
Baking-powder, Royal	6 oz.	4	5	15	25.47	22.0	25.5	20.8	24.43	19.7	−1.13	5.45	4.07	10.45
Beans, Campbell	Can	7	8	15	9.79	8.2	9.7	8.6	8.41	7.6	1.29	−4.88	14.13	7.32
Candy, Hershey	small	7	6	15	5.00	5.0	5.0	5.0	3.33	3.3	0.00	0.00	33.34	33.34
Catsup, Beechnut	large	4	4	1	24.19	22.3	23.3	20.8	22.77	19.0	3.53	6.73	5.87	14.80
Cereal, Cream of Wheat	28 oz.	8	9	15	24.75	25.3	25.4	24.3	24.07	23.7	−2.64	3.95	2.75	6.32
Cereal, Grape Nuts	.....	7	8	15	18.51	18.4	18.0	18.4	17.15	18.5	2.77	0.00	7.36	− .54
Cereal, Kellogg's All Bran	large	5	7	15	23.83	21.6	22.0	21.1	19.11	20.1	7.69	2.31	19.82	6.94
Cereal, Kellogg's Corn Flakes	8 oz.	7	9	15	9.01	8.4	8.3	8.2	8.08	7.2	7.51	2.38	10.30	14.29
Cereal, Post Toasties	.....	5	7	15	9.38	9.2	8.3	8.6	8.18	7.2	11.12	6.52	12.73	21.74
Cereal, Puffed Rice	.....	5	8	15	17.29	14.0	16.8	13.8	15.70	13.3	2.81	1.43	9.19	5.00
Cereal, Puffed Wheat	.....	7	9	15	14.83	10.7	14.2	9.9	12.95	9.3	4.22	7.48	12.65	13.08
Cereal, Shredded Wheat	.....	8	9	15	11.73	12.4	10.4	12.3	9.97	12.0	11.30	.81	15.01	3.23
Cereal, Wheatena	22 oz.	6	7	15	24.77	24.5	24.8	24.4	22.84	23.7	− .11	.41	9.25	3.27
Cheese, Old Dairy	1 lb.	5	5	14	34.12	27.2	34.0	28.6	29.00	20.6	.34	−5.15	15.00	24.26
Chips, Lux	small	5	6	15	10.35	10.0	10.3	10.2	10.00	10.1	.16	−2.00	3.38	−1.00
Chocolate, Baker's	½ lb.	6	5	15	24.42	24.0	24.0	21.0	22.33	22.9	1.72	12.50	8.55	4.58
Cigarettes, Lucky Strike	20's	6	8	15	14.12	14.0	14.1	13.5	12.50	12.5	.05	3.57	11.55	10.71
Cleaner, Babo	can	5	6	15	14.75	13.9	14.8	13.4	13.88	12.5	− .34	3.60	5.95	10.07
Cleaner, Bon Ami	cake	6	6	15	11.27	11.7	11.3	11.3	9.78	10.0	− .59	3.42	13.18	14.53
Cleanser, Old Dutch	can	7	9	15	9.36	8.7	8.9	8.0	7.76	7.7	4.22	8.05	17.15	11.49
Cocoa, Baker's	¼ lb.	7	7	15	23.48	13.5	22.6	12.0	20.60	11.9	3.73	11.11	12.26	11.85
Cocoanut, Baker's Moist	½ lb.	3	3	9	18.25	16.0	18.0	12.7	16.14	15.0	1.37	20.63	11.54	6.25
Coffee, Maxwell House	1 lb.	5	7	15	45.06	34.6	44.5	33.3	44.03	33.1	1.25	3.76	2.29	4.34
Coffee, White House	1 lb.	6	3	11	45.00	28.7	46.0	29.3	43.75	30.3	−2.22	−2.09	2.78	−5.57

Compound, bulk	1 lb.	5	3	15	15.33	12.8	15.4	12.8	13.18	12.3	− .32	0.00	14.00	3.91
Corn Syrup, Karo Blue Label	1½ lb.	3	3	15	15.66	14.3	14.5	15.7	13.94	14.5	7.41	−9.79	10.98	−1.40
Crisco	1 lb.	6	7	15	27.32	20.7	26.4	20.6	24.71	20.2	3.35	.48	9.55	2.42
Flour, Pillsbury	24½ lb.	4	4	15	106.75	131.3	109.0	128.5	101.00	125.5	−2.11	2.13	5.28	4.42
Flour, Pillsbury Pancake	3½ lb.	3	2	15	36.67	28.7	35.0	29.0	33.99	28.9	4.54	−1.05	7.28	− .70
Gelatine, Knox Plain	No. 3	5	7	15	23.58	22.8	21.0	22.4	19.67	19.1	10.95	1.75	16.59	16.23
Grape Juice, Welch's	pint	3	1	6	33.30	20.7	32.0	18.0	29.30	17.5	3.90	13.04	12.01	15.46
Gum, Beechnut	5 sticks	7	8	15	5.00	5.0	5.0	5.0	3.33	3.3	0.00	0.00	33.34	33.34
Jello	pkg.	8	7	15	9.39	7.0	10.0	6.6	8.33	6.4	−6.53	5.71	11.26	8.57
Lard, bulk	1 lb.	5	6	15	17.36	14.4	16.7	13.8	15.28	12.9	3.81	4.17	11.98	10.42
Mayonnaise, Blue Ribbon	8 oz.	2	1	12	21.25	14.5	20.8	15.0	19.47	14.1	2.11	−3.45	8.39	2.76
Milk, Borden's	15 oz.	3	4	15	23.28	23.0	24.3	20.0	19.67	19.4	−4.52	13.04	15.53	15.65
Mustard, French	9 oz.	3	3	14	16.10	15.0	14.3	14.7	13.58	12.9	10.98	2.00	15.03	14.00
Oil, Wesson's	pint	5	7	15	33.22	27.8	33.6	25.7	29.20	24.3	−1.16	7.55	12.09	12.59
Parawax	1 lb.	4	7	15	12.76	11.5	11.3	10.0	9.93	8.9	11.83	13.04	22.16	22.61
Pineapple, Del Monte	1–14	3	2	8	31.00	22.7	31.5	25.0	28.90	21.0	−1.61	−10.10	6.77	7.49
Postum, Instant	4 oz.	5	5	10	25.80	26.4	25.0	26.4	24.50	24.4	3.10	0.00	4.92	7.58
Salt, Iodized	2 lb.	8	8	15	15.00	9.9	13.1	9.4	10.92	8.2	12.50	5.05	27.23	17.17
Soap, Ivory	med.	6	9	15	7.85	6.0	7.9	5.7	6.99	5.8	− .68	5.00	10.88	3.33
Soap, Lifebuoy	cake	6	6	15	8.98	7.6	7.9	8.0	7.03	6.4	11.87	−5.26	21.72	15.79
Soap, Octagon	large	6	5	15	7.08	5.2	7.0	5.0	6.19	5.0	1.16	3.85	12.60	3.85
Soap, Palmolive	cake	5	6	12	8.97	5.4	9.1	5.5	7.45	4.8	−1.77	−1.85	16.95	11.11
Soap, Proctor & Gamble	cake	4	7	15	4.77	4.3	4.6	4.3	3.57	3.6	3.11	0.00	25.09	16.28
Soap, Skat	12 oz.	2	3	9	11.67	10.0	10.0	8.3	9.39	10.0	14.28	17.00	19.53	0.00
Soup, Campbell's Tomato	can	7	7	15	9.35	8.2	9.7	8.6	8.33	7.6	−4.11	−4.88	10.89	7.32
Sugar, XXXX	1 lb.	8	8	15	9.61	8.8	9.5	8.1	8.01	7.7	1.17	7.95	16.68	12.50
Tapioca, Minute	8 oz.	6	8	15	15.47	14.5	13.4	12.5	12.62	12.2	13.36	13.79	18.43	15.86
Totals, 52 articles	.....	280	312	721	.....	.....	.....	.....	.....	.....	161.63	188.63	666.65	520.97
									Average.....		3.11	3.63	12.82	10.02

were above those charged by the chain. In 1934 the former was selling 3.8 per cent of the items at chain store prices and 9.6 per cent actually below the chain average. The independent in 1934 was also meeting or bettering the average chain store price on 11.5 per cent of the 52 items.

TABLE II

PERCENTAGE OF 52 ITEMS SOLD BY VOLUNTARY CHAIN AND INDEPENDENT STORE AT PRICES ABOVE, EQUAL TO, OR BELOW THE CHAIN STORE AVERAGE, 1930 AND 1934

	Voluntary Chain		Independent	
	1930	1934	1930	1934
Above chain average	100	86.53	100	88.46
Equal to chain average	0	3.84	0	1.92
Below chain average	0	9.61	0	9.61

TABLE III

VOLUNTARY CHAIN AND CHAIN PERCENTAGE SAVINGS OVER INDEPENDENT IN SPECIFIC GROUPS OF ITEMS

	Voluntary Chain over Independent		Chain Over Independent	
	1930	1934	1930	1934
5 beverages	1.95	5.16	6.85	6.73
9 breakfast foods	4.96	2.81	11.01	8.15
3 cleaners	1.10	5.02	12.09	12.03
8 products used in preparation of foods*	.61	5.17	10.16	8.55
5 soaps	2.74	.35	17.45	10.07

* Royal and Davis baking-powder, Crisco, Pillsbury Flour, lard, Borden's Eagle milk, compound, Wesson's oil in pints.

It may be of some interest to compare the shift in chain price advantage in specific groups of items. This is done in Table III. In beverages the chain's advantage has remained practically unchanged, while the voluntary chain has made considerable gains over the independent. The same is true of the cleaners classification. In the other three groups, however, the chain has lost a de-

gree of its former advantage. It is interesting to note that in two of these (soap and breakfast foods) the voluntary chain has also lost a large part of its 1930 advantage.

CONCLUSIONS

The chain grocery stores in small towns, as well as in city areas, are apparently still giving a substantial saving on branded goods as compared with both the voluntary chain and the independent grocer. While the 1930 advantage of 12.82 per cent over the independent has been somewhat reduced to 10.02 per cent, the remaining advantage is significant. The voluntary chain, on the other hand, has increased its advantage as compared with both the chain and the independent; but its saving over the latter of 3.63 per cent is still far from meeting chain store competition on a price basis.

One observation may be made regarding the voluntary chains in general. To date, the majority of these organizations have put the emphasis on quantity buying as the means of meeting chain store price competition rather than on reducing the cost of performing the wholesale and retail functions. Probably many of the voluntary chains are buying a large part of their goods at figures not far from what the chain of comparable size finds it must pay. Yet, the latter continues to offer the customer a marked saving over the former. True, a part of this difference in price is due to the cost of additional service, e.g., credit and delivery, granted by some voluntary chain members—but this cannot explain the largest part of the differential that actually exists. To the writer, the persistence of this differential can be explained only in terms of the lower cost of operation of the chain, owing to its integration of the wholesale and retail functions, as contrasted with the quite separate performance of these functions in the case of the voluntary chain. If this is true, voluntary chains will meet chain store prices only as the "voluntary" element in the working-together of wholesalers and retailers becomes less important and a greater degree of central control is developed. It is significant that some of the larger voluntary chains, having found that quantity buying alone is not enough, are trying to develop the needed central control.

THE SHIPMENT OF GRAIN AND GRAIN PRODUCTS FROM CHICAGO, 1924–25—1932–33[1]

EDWARD A. DUDDY AND DAVID A. REVZAN[2]

IF ONE compares a map showing the distribution of population in the United States with maps which show the location of production surpluses of the five principal grains, he will discover the principal explanation of the directional flow of these surpluses from the states west of the Illinois-Indiana state line to states east of that line and south of the Ohio and Potomac rivers. In an endeavor to explain the volume, the direction of flow, and seasonal characteristics of the grain movement out of Chicago, two sets of forces must be recognized—those which affect the volume of shipments by limiting the volume of receipts, and those which bear directly on the variation and directional flow of the shipments to destination points.

In earlier discussions[3] the authors have described in some detail the territorial origins of Chicago grain receipts. Analysis was made of various forces affecting the annual and seasonal variation in the flow of grain to market from different parts of the supply territory, and the competition of other markets was examined. Not enough was said in that report, however, about the changing production conditions which have been operating to limit the size of total receipts.

A major influence has been the regional shifts in grain and livestock production which have been going on since the end of the

[1] A previous article on the same subject was published in the January, 1935, *Journal of Business*.

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[3] *The Grain Supply Area of the Chicago Market*, "Studies in Business Administration," Vol. IV, No. 4 (Chicago: University of Chicago Press, 1934); and "The Competitive Position of Chicago in the Region of Grain Supply," *Journal of Farm Economics*, October, 1934.

Civil War.[4] As early as 1889, expansion of wheat production into the Red River Valley of the North and into Kansas had taken place. With each passing decade the center of wheat production moved farther west, first with a northerly trend but latterly toward the southwest and into the Great Plains region. By 1930 nearly three-quarters of all wheat production was concentrated in the Great Plains, west of a line drawn from the eastern boundary of North Dakota to eastern Texas. East of this boundary line there was a decrease of 40 per cent in wheat acreage from 1919 to 1929. Receipts at Chicago during the 1924–33 period varied with the surplus of wheat sold in Iowa and Illinois. Other important markets with large processing industries and export outlets have intervened between Chicago and the major wheat-producing areas. Only as Chicago buyers tap the supplies received at these markets is it possible to compensate for any deficiency in the supply which is naturally tributary to Chicago. Under this handicap, market receipts have generally declined, while receipts at Minneapolis, Kansas City, and Duluth have increased. Wheat shipments have been correspondingly affected.

An unusual cause of limitation in wheat movement to market has been the very considerable increase in the use of wheat for feed on farms since 1929.[5] Wheat prices reached such low levels in relation to livestock prices that it was more advantageous to the grower to market his wheat in the form of meat. This was likewise true of rye up to and including 1930. It should be noted that in certain areas wheat replaces corn as a feed grain when wheat prices are lower than corn prices.

Since 1869 either Illinois or Iowa has been the leading state in

[4] The publication, *Regional Changes in Farm Animal Production in Relation to Land Utilization* (Washington: Bureau of Agricultural Economics, October, 1929), is authority for the facts presented with respect to shifts in production.

[5] Wheat fed to livestock in Illinois, stated as a percentage of wheat production: 1927, 4.0; 1928, 7.0; 1929, 4.0; 1930, 16.0; 1931, 16.7; 1932, 15.0; 1933, 8.0. Wheat fed in Iowa: 1927, 6.0; 1928, 6.0; 1929, 10.0; 1930, 26.0; 1931, 32.9; 1932, 30.0; 1933, 28.0. Rye fed in Wisconsin: 1927, 15.0; 1928, 25.0; 1929, 20.0; 1930, 30.0; 1931, 74.2; 1932, 78.6. Data from *Farm Value, Gross Income, and Cost Income from Farm Production*, United States Department of Agriculture mimeographed publications, March, 1930; December, 1931; and March, 1934. These percentages do not refer to wheat fed elsewhere than on farms, or to wheat used for manufactured feeds.

corn production. Since 1920, also, the western Corn Belt states (Iowa, Minnesota, South Dakota, Nebraska, Missouri, Kansas) have increased in importance at the expense of the eastern Corn Belt and south central states. Corn and hogs have tended to displace wheat in Minnesota and the Dakotas. Thus Chicago remains in a much different relation to the source of surplus corn production than to wheat. The market continues to hold first rank in receipts and shipments of corn.

While the western Corn Belt[6] states produced 47 per cent of the total corn crop during the five-year period 1927–31, and the eastern Corn Belt[7] states produced 36.6 per cent, it is important to notice what was happening to shifts in farm animal production, since market receipts of the feed grains are drawn only from the surplus production of the farm. Market receipts result from (*a*) cash grain areas, (*b*) areas where supplies available are in excess of expected feeding requirements, or (*c*) high prices of feed grain in relation to livestock prices. From the average of 1922–26 to January 1, 1929, there was a general decrease in animal units in all states from the Rocky Mountains east. The decline was especially heavy in the Corn Belt and winter wheat regions, due chiefly to the decrease of 18 per cent in horses and mules. It is estimated that the area of crop land released for other uses by the decrease of horses and mules between 1919 and 1929 amounted to 1,500,000 acres in Illinois and to over 1,000,000 acres in Iowa, Ohio, Missouri, and Kansas. This resulted in a very large amount of additional feed for other farm animals. On the other hand, the feed consumed per animal unit has increased. Expansion in livestock feeding has taken up the slack in the western Corn Belt, while acreage formerly in feed crops has gone into wheat in the southwest.

There is no evidence that the decrease in number of horses and mules in Illinois and Iowa, with corresponding release of acreage, had any appreciable effect on Chicago corn receipts. The percentage of corn production fed on the farm in Illinois and Iowa shows no tendency to change over the period 1924–30. Consider-

[6] Corn-producing states west of the Mississippi River.

[7] Illinois, Indiana, Michigan, Wisconsin, and Ohio.

able decreases in the number of dairy and beef cattle probably resulted in little addition to market surpluses of corn because of feeding a heavier ration to dairy cows and the marketing of beef cattle at younger ages with higher rate of turnover. A very considerable increase in the number of swine in Iowa absorbed an increasing share of the corn production of that state. This was reflected in decreasing receipts of corn from Iowa at Chicago.

As early as 1889 the western Corn Belt states gained the lead over the eastern Corn Belt in oats production. By 1924 the western Corn Belt was producing 53.8 per cent of the total crop. Iowa, Minnesota, and Illinois were the principal producing states. Since 1919 Minnesota has increased oats production at a rapid rate. Since 1928 oats production in the western Corn Belt states has shrunk to small proportions, due to acreage curtailments and bad growing conditions. Receipts at Chicago reflect this shrinkage. Minnesota, which was a principal supply state for Chicago in 1924–25, provided but 85 cars in 1932–33.

As prices of oats declined in relation to livestock prices after 1929 there is evidence that increased proportions of the total production in Illinois and Iowa were fed on the farms, with resulting contraction in market receipts.[8]

After 1925–26, oats shipments from Minneapolis and Duluth also declined. This would indicate that Chicago was competing for a diminishing supply which was needed nearer the point of production. Receipts of oats from Iowa were diverted to Cedar Rapids to such an extent that from 1931 to 1933 only an insignificant number of cars were received at Chicago. The demand of cereal mills at Cedar Rapids was a deciding factor.

Barley production has shifted into the spring wheat area, the leading states from 1924 to 1931 being Minnesota, North and South Dakota, followed by California, Wisconsin, Iowa, Nebraska and Illinois. The extension of barley production into the spring wheat area is closely related to the increase in pork production

[8] Percentage of oats production fed on farms in Iowa: 1927, 77.0; 1928, 71.0; 1929, 74.0; 1930, 80.0; 1931, 84.8; 1932, 81.0; 1933, 86.0.

Percentage of oats production fed on farms in Illinois: 1927, 62.0; 1928, 56.0; 1929, 55.0; 1930, 63.0; 1931, 54.6; 1932, 58.0; 1933, 70.0. Data from *Farm Value, Gross Income, and Cash Income from Farm Production, op. cit.*

in this area. Corn is not perfectly adapted to the northern plains states. As a result, barley production was increased to supplement the corn supplies in feeding the increasing number of swine. Since Chicago market receipts depend chiefly on supplies from Illinois and Iowa, it is clear that the shift to the northwest did not help to increase receipts. Shipments from Minneapolis to Chicago were well sustained over the period 1924–33, but were not sufficient to prevent a contraction in the total receipts at the market.

As with wheat and oats, barley fed on farms increased as a percentage of total production after prices began to fail in 1929. This operated to restrict the flow of this grain to market.[9]

Under the pressure of the combined forces working upon the surplus of grain supply in those states from which Chicago draws its grain, receipts from 1924–25 to 1932–33 contracted in the following degree: barley 31.0 per cent, corn 5.4 per cent, oats 60.0 per cent, rye 74.4 per cent, wheat 80.4 per cent, combined grains 45.5 per cent.

An increase in terminal switching rates at Chicago by decision of the Interstate Commerce Commission in December, 1931, on interstate shipments, and in November, 1933, on intrastate shipments is alleged by the grain trade to be an important contributing factor to the decline in grain receipts.[10]

In another place[11] the effect of local consumption and processing at Chicago on the volume of shipments has been discussed.

FORCES AFFECTING SHIPMENTS DIRECTLY

Turning now to those forces or conditions which directly affected the volume and direction of grain shipments from Chi-

[9] Percentage of barley production fed on farms in Illinois: 1927, 64.0; 1928, 55.0; 1929, 70.0; 1930, 75.0; 1931, 74.0; 1932, 75.0; 1933, 80.0. In Wisconsin the percentage increased from 84.0 in 1927 to 93.0 in 1930; 98.0 in 1931; and remained at 97.0 during 1932 and 1933. In Minnesota the percentage rose from 62.0 to 80.0 in the same period. Data from *Farm Value, Gross Income, and Cash Income from Farm Production, op. cit.*

[10] The charge is fixed at from 3 cents to 4 cents a 100 pounds, depending upon the number of railroads involved in the haul. There is some evidence that Milwaukee has been profiting by Chicago's handicap in 1933 and 1934.

[11] *Journal of Business*, January, 1935, pp. 69–70.

cago from 1924–25 to 1932–33, it is necessary to distinguish the forces affecting shipments for export from those controlling the movement for domestic use.

Exports.—The volume of grain exports from the United States during the period under discussion was greatly curtailed and exports from Chicago were similarly affected (Table I). Reasons

TABLE I

A COMPARISON OF TOTAL EXPORTS OF FIVE GRAINS FROM THE UNITED STATES WITH EXPORT SHIPMENTS FROM CHICAGO, 1924–25 TO 1932–33

(1924–25 = 100)

YEAR	BARLEY		CORN		OATS		RYE		WHEAT	
	Total U.S. Exports	Chicago Shipments via Rail and Lake	Total U.S. Exports	Chicago Shipments via Rail and Lake	Total U.S. Exports	Chicago Shipments via Rail and Lake	Total U.S. Exports	Chicago Shipments via Rail and Lake	Total U.S. Exports	Chicago Shipments via Rail and Lake
1924–25	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1925–26	46.6	50.9	180.7	170.6	39.3	645.5	41.6	10.2	159.7	16.6
1926–27	130.5	52.7	105.2	192.7	34.1	165.1	125.3	23.2	194.5	35.1
1927–28	177.6	231.6	202.2	305.1	35.4	133.6	50.6	13.2	111.3	41.0
1928–29	101.5	742.5	264.4	570.5	22.4	297.7	12.0	6.0	104.2	*
1929–30	33.9	*	49.9	208.1	5.1	19.4	0.9	4.9	101.4	19.1
1930–31	27.0	.....	21.2	67.2	7.2	1.6	0.4	.....	92.8	5.5
1931–32	24.2	.....	61.7	91.4	11.8	5.6	3.8	.....	63.4	6.0
1932–33	24.5	.....	42.0	482.0	5.0	44.3	0.1	5.4	10.3	.....

* Less than $\frac{1}{10}$ of 1 per cent.

for the drastic decline in exports are only too well known. They might be summarized first as policies of importing countries which were trying to reduce imports of grain which might be produced at home in the interest of correcting unbalanced budgets and conserving gold supplies. The threat of war also encouraged a policy of nationalistic production with a defensive tariff and quota policies designed to exclude foreign grain. The halting of loans from this country on foreign securities after 1927 also hastened a policy of economy in the borrowing countries.

Except for the war years, our export market has been under pressure through the expansion of production in the exporting countries—Canada, Argentina, and Australia. Expansion was stimulated in these countries during the post-war years in the endeavor to pay off debts with grain exports. The policy of maintaining a high level of wheat prices in this country relative to those in other important export nations from 1929 to 1931 was a material factor in limiting exports of wheat from the United States. No allowance was made for a shipping margin and our prices were out of line with those of foreign countries. Kansas City wheat prices averaged almost ten cents a bushel above Liverpool prices from December, 1930, to July, 1931.

Internal conditions have operated to lessen the importance of Chicago as an export market. The shift of hard winter wheat production into the southwest had given importance to the Gulf ports before 1920. Favorable rate adjustments through St. Louis and Kansas City, and the improvement of transportation on the Mississippi River, worked to the advantage of the Gulf ports and against Chicago. Expansion of production in the Pacific Northwest has also resulted in the displacement of exports of the cheaper grades of wheat from Chicago. Removal of the unusual congestion of stocks which has prevailed in the past few years in this section may correct this condition.

Export grain moves out of Chicago by lake and by rail. Estimates of the percentages of lake grain moving into export have already been given.[12] The Canadian ports and Buffalo handle practically all of the export grain going by lake. Montreal receives a large amount direct, especially wheat, while the balance moves through the Ontario ports—Depot Harbor, Port McNicoll, Owen Sound, Collingwood, Midland, Tiffin, Port Colborne—where storage facilities are available. The grain may move out of storage by boat through the Welland Canal to Montreal for export, or by rail to Montreal or Quebec. Export grain moving through Buffalo may move out through any of the Atlantic ports, but much of it will go through New York.

[12] See *Journal of Business*, January, 1935, p. 74.

A system of port differentials[13] which favors Baltimore and Philadelphia over New York and Boston has much to do with determining the direction of movement of export grain going all-rail. Baltimore is the outstanding point for export shipments from Chicago, especially of wheat and rye. Barley and oats moved mainly through New York, while corn moved in equal volume through New York and Baltimore. Export grain moving all-rail takes a rate averaging 2.66 cents per bushel over the lake-rail rate to Atlantic coast ports. It is thus relatively expensive. Unless an economy in ocean transport can be realized, or unless speed is necessary to make delivery on the contract, export grain will move by lake. The completion of the Great Lakes–St. Lawrence waterway might give considerable impetus to exports from Chicago, provided this country can again regain its share of the foreign market.

Conditions affecting shipments for domestic consumption.—In an endeavor to explain the volume and directional flow of corn, oats, and wheat from Chicago to points east and south of Chicago, an analysis was made of the probable needs of these territories for imports to satisfy demands for food and feed of the human and livestock population. The amounts of corn and oats required in each area were determined by multiplying the normal requirement per animal unit[14] for the United States by the number of animal units on farms in the destination territory. This requirement was compared with the amount of the grain locally produced which was fed on the farm, as reported by the United States Department of Agriculture.[15] The difference between these two estimates showed either that the amount of local production fed on farms was less than the normal requirement and that the

[13] The following export rates in cents per 100 pounds apply from Chicago to Atlantic and Canadian ports: New York, 22.5; Boston, 22.5; Philadelphia, 21.5; Baltimore, 21; Montreal, 21.5.

[14] The normal requirement per animal unit for the United States is equal to the total amount fed divided by the total number of animal units. An animal unit is composed of: one milk cow = 1.00; one horse or one mule = 1.14; one other cattle = 0.51; one hog = 0.87; one sheep = 0.04.

[15] *Farm Value, Gross Income, and Cash Income from Farm Production, op. cit.*

territory was on an importing basis; or that the amount fed was above the normal requirement and the territory self-supporting in terms of the feed grains—corn and oats. Note was taken also of the amount of corn or oats in each territory sold or offered for sale in the market, and of the milling requirement as indicated by the reports of the *Census of Manufactures*. Correction of an apparent surplus or deficit in the area was made by deducting from the apparent deficit the amount of corn or oats sold or for sale, and

FIG. 1.—Carlot distribution of five grains by rail to freight-rate territories, average 1924–25 to 1932–33.

adding to the deficit the amount of the milling requirement. If the area appeared to have a surplus (that is, when the amount fed was greater than the normal feeding requirement), the milling requirement was applied against the amount of corn or oats sold or for sale in the area. Annual shipments from Chicago have been compared with the amount of the net deficit in those areas which showed deficits, and with the net amounts of corn or oats sold or for sale where the grain fed was above a normal requirement.

Wheat shipments from Chicago were compared with the requirements of the several destination areas for wheat for milling purposes. In all but Central Freight Association Territory the milling requirement was in excess of the amounts of wheat sold

or for sale. The needs of the human population in these areas above the flour manufactured and wheat imported for milling are met by imports of flour. While shipments of flour from Chicago are known, it is not known how these shipments are distributed territorially.

Wheat.—The need for wheat imports for milling in New England ranged from 264,000 to 390,000 bushels. In 1926–27 direct shipments from the Chicago market were 479,000 bushels, or 139.7 per cent of the indicated needs. In 1929–30 but 16,000 bushels moved to New England, and this was 6.0 per cent of the deficit. Average shipments for the period were 56.0 per cent of the indicated needs for milling. The needs of the consuming population in New England were taken care of mainly by shipments of flour. The total consumption deficit called for not less than 32,000,000 bushels of wheat imports in any one year while the largest annual import for milling purposes was but 390,000 bushels.

Wheat flour milling is an important industry in Trunk Line Territory; therefore the wheat imports for milling are large. A maximum need of 78,795,000 bushels was indicated in 1929–30, while the minimum in 1924–25 did not fall below 45,000,000. Shipments from Chicago took care of 70.3 per cent of the deficit in 1924–25, but were only 13.2 per cent of the deficit in 1928–29. Over the period shipments from Chicago supplied an average of 25.2 per cent of the milling requirement.[16]

The tendency in this territory was quite definitely to supply the wheat consuming needs of the population with imports of wheat rather than with imports of flour. It appears that in 1924–25 a total consumption deficit of 84,893,000 bushels was met by imports of 45,332,000 bushels of wheat for milling, the balance being met by imports of flour. In 1931–32 the total consumption deficit of 89,331,000 bushels was met by imports of 74,899,000 bushels for milling, leaving a much smaller balance to be imported as flour. No doubt much larger shipments of flour were made into this territory but they were not needed to supply the

[16] It is not known to what extent milling of Canadian wheat in bond is included in the report of flour milling at Buffalo.

TABLE II

INDICATED WHEAT IMPORTS FOR MILLING WITH SHIPMENTS OF WHEAT FROM CHICAGO TO DESTINATION AREAS, 1924–25 TO 1932–33

(In bushels, 000 omitted)

	1924–25		1925–26		1926–27		1927–28		1928–29		1929–30		1930–31		1931–32		1932–33§	
	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped	Indicated Imports	Shipped
New England	368	363	286	69	343	479	390	132	332	37	264	16	†	15	†	‡	.....	16
Trunk Line	45,332	31,891	49,888	7,544	49,396	14,399	52,138	8,304	55,302	7,297	78,795	12,475	75,954	13,028	74,899	26,330	.....	6,915
Central Freight Association	*	3,790	*	2,577	*	1,466	*	3,172	26,293	5,113	*	5,057	5,210	4,529	*	5,940	.....	5,424
Southern	23,798	1,670	17,307	691	6,930	443	21,669	2,383	20,515	694	17,196	1,492	17,345	1,893	11,326	521	.....	2,531

* Wheat sold was in excess of milling requirement.
† No separate data on milling for New England.
‡ No shipments from Chicago.
§ No data on milling for 1932–33.

normal consumption needs. Blending needs may account for a portion of these shipments.

In but two out of nine years (1928–29, 1930–31) did Central Freight Association Territory fall short of having enough wheat to meet milling requirements. In both years it is apparent that the deficit was made up by increased imports of flour or by imports of wheat from other markets than Chicago. Shipments from Chicago did not increase in these years. In 1928–29 the wheat deficit amounted to 26,293,000 bushels, of which shipments from Chicago were 19.2 per cent. In spite of the fact that the territory was on a self-supporting basis with respect to wheat for milling in all but two years, shipments from Chicago varied from 1,466,000 to 5,940,000 bushels.

Why shipments of wheat should take place to a territory where surpluses were present needs explanation. There is a difference in quality of the soft winter wheat available for milling in Indiana, Ohio, and Michigan, and the hard winter wheat available in Chicago. Soft winter wheat flour finds a ready market in the south, but the city populations of the north-central states in general prefer bread made from hard winter wheat or a mixture of soft and hard wheats. It is therefore highly probable that shipments from Chicago, which averaged around four million bushels, were on a quality basis.

Wheat milling deficits in Southern Territory varied from 6,930,000 bushels to over 23,000,000 bushels. These estimates are no doubt higher than they should be by the amount of cornmeal which was substituted for wheat for human consumption in the south. Wheat shipments from Chicago into Southern Territory reached a maximum of 2,383,000 bushels in 1927–28; this was 11.0 per cent of the indicated deficit. In 1928–29 but 694,000 bushels were shipped, or 3.4 per cent of the deficit. The average shipments were 7.1 per cent of the average wheat needs of the territory.

Corn.—Prior to 1929 the acreage in cash crops was large in proportion to the acreage in feed crops. After 1929 the prices of cash crops declined much more rapidly than the prices of livestock and livestock products. This gave encouragement to in-

creased planting of feed crops which could be marketed through livestock, and to feeding on farms larger percentages of the feed grains produced, including wheat and rye. A larger proportion of the corn and oats which was shipped off the farms was consumed as feed on farms in deficit areas.[17] In spite of the evident advantage attached to increasing livestock production, there was a decrease in the number of animal units in New England between 1925 and 1930 of 7.5 per cent. From 1925 to 1931, the decrease in Trunk Line Territory was 7.2 per cent, and in Central Freight Association Territory the decrease was 13.7 per cent. After 1931 the number of animal units increased in the latter territories, as they did in New England after 1930. Undoubtedly much of the decrease was due to the reduction in number of horses on farms, but this was nevertheless reflected in the demand for feed.

After making allowance for a normal feeding requirement for corn in New England, with an added allowance for corn for milling, credit being given for the amount of corn sold, it was found that a deficit of from 22,098,000 bushels in 1932–33 to a maximum of 35,235,000 bushels in 1926–27 existed during the nine years studied. The average annual deficit approximated 30,000,000 bushels. Shipments of corn to New England direct were at a maximum in 1924–25 when Chicago supplied 12.2 per cent of the deficit with shipments of 3,646,000 bushels. Minimum shipments were made in 1932–33 when only 80,000 bushels, but 0.4 per cent of the indicated requirements, moved direct. For the whole period the Chicago market supplied directly an average of 7.6 per cent of the estimated corn deficit of New England. Much of the corn destined to New England went first to Canadian ports, crossing the boundary into Maine and Vermont.

Much corn moves by lake to Buffalo and thence to New England points either as corn or as processed feed. With the increased burden of rail rates after 1930, owing to the drop in grain prices, this lake traffic was stimulated. Shipments to Trunk Line Territory, unlike shipments to New England, did not experience a drastic decline after 1930. The corn deficit in the Trunk Line Territory reached a maximum of 53,159,000 bushels in 1929–30

[17] *Yearbook, Department of Agriculture, 1933*, p. 171–74.

and was at a minimum of 11,295,000 in 1931–32; the average annual deficit approximated 40,000,000 bushels.[18] Shipments from Chicago were at a maximum in 1932–33, when 33,162,000 bushels were forwarded, but shipments in relation to the indicated needs of the territory were greatest in 1931–32, when 112.3 per cent of the deficit was shipped. In the year immediately preceding, Chicago's corn shipments amounted to but 25.4 per cent of

TABLE III

CORN SHIPMENTS FROM CHICAGO COMPARED WITH CORN DEFICIT OR SURPLUS IN THE DESTINATION AREAS, 1924–25 TO 1932–33

(In bushels, 000 omitted)

	New England		Trunk Line		Central Freight Association		Southern	
	Deficit	Shipments	Deficit	Shipments	Sold or† for Sale	Shipments	Deficit	Shipments
1924–25	31,001	3,646	46,491	19,379	2,660†	6,852	18,190	690
1925–26	35,198	2,925	36,529	13,447	63,698	5,482	49,756	1,056
1926–27	35,293	2,322	49,637	14,419	54,776	6,315	23,219§	1,436
1927–28	34,356	3,247	43,766	21,896	13,768‡	10,346	30,509	1,309
1928–29	31,449	3,088	53,263	18,249	24,265	6,943	43,702	2,114
1929–30	31,750	2,977	56,657	17,728	18,938	5,476	27,015	672
1930–31	24,720	1,853	51,051	12,975	12,225	4,513	154,479	227
1931–32	23,291	178	11,295	12,688	67,567	2,208	17,706§	60
1932–33*	22,098	80	34,637	33,162	55,802	2,434	88,620	57

* No data on milling requirement for 1932–33.

† Amount sold or offered for sale less milling requirement.

‡ Deficit, i.e., amount sold was less than required to make up normal milling and feeding requirement.

§ Excess of corn sold above milling requirement when the amount fed was above normal.

the indicated corn deficit. Over the nine-year period, however, 46.2 per cent of the indicated corn needs of the territory came from the Chicago market. How much of the corn shipped to Buffalo found its way to New England is not known.

Central Freight Association Territory is more nearly in balance

[18] The normal feeding requirement is based on the disappearance of corn fed on farms in the United States each year. In territories like New England and Trunk Line, which raise less corn than is consumed, it is improbable that deficits will always be compensated by corn imports, especially in years of short crop. The deficit will be made up by heavier feeding of other grains. (See p. 162.)

with respect to corn for feeding and milling requirements. Except in a year of short crops this territory has a considerable surplus for export which finds its way into Southern and Trunk Line territories. In spite of marked variations in the available supply in this area, shipments from Chicago were rather uniform in volume until 1931–32 and 1932–33, when minimum shipments of 22,000,000 and 24,000,000 bushels were made. Large corn crops were raised in Ohio, Indiana, and Michigan in both these years.

Corn deficits appeared in this area in 1924–25 and 1927–28; in the latter year shipments of 10,346,000 bushels moved out of Chicago to meet an indicated deficit of 13,768,000. In spite of large corn surpluses offered for sale in the territory, Chicago continued to ship an average of 6,000,000 bushels during 1925–27, and from 1928–29 to 1930–31. Such shipments were no doubt on a seasonal basis to replace corn which had been sold out of the territory.

In the two years, 1926–27 and 1931–32, Southern Territory showed a fair surplus above the normal requirement. In the remaining years the indicated deficit ranged from 18,190,000 in 1924–25 to 154,479,000 in the short-crop year of 1930–31. Chicago's share of this market is small, markets to the south and southwest having a distinct advantage in serving this territory. Shipments were 4.8 per cent of the deficit in 1928–29, but averaged only 1.5 per cent for the whole period.

Oats.—Shipments of oats from Chicago were compared with the normal requirements of the destination areas in the same way as for corn. For New England the indicated need for imports of oats varied from a minimum of 1,185,000 bushels in 1926–27[19] to 9,725,000 in 1928–29. Shipments from Chicago to New England were much more than required to overcome the deficits which existed in all years but 1928–29 and 1930–33. Either New England fed much above the normal amount of oats, or (what is more likely) considerable quantities were exported through Boston and Portland. Exports of oats were sustained at a level above

[19] No estimate of needs for milling requirement was available for the first three years of the period.

15,000,000 bushels, with the exception of one year, through 1928. It is during these first years of the period that shipments from Chicago ran well over 100 per cent of the indicated requirement. The average is distorted by these years. A minimum of 933,000 bushels, 2.8 per cent of the deficit, was shipped from Chicago in 1932–33.

In four of the nine years Trunk Line Territory was short of meeting its normal oats requirement from 774,000 bushels in 1927–28 to 4,778,000 bushels in the short-crop year of 1929–30. In the remaining five years there was a surplus of oats for sale above all requirements. Shipments of oats to Trunk Line Territory from Chicago were much in excess of any indicated deficit and continued heavy in those years when local production was above normal needs. Exports through New York may have absorbed some of the surplus in the early years, 1924–28. Much of the oats reaching Buffalo was ground into feed and undoubtedly found its way into the southeastern states to meet a heavy feeding deficit. In those years in which it was profitable to increase the production of livestock and livestock products there is little question that more than the normal amount of oats per animal unit was fed.

Maximum oats shipments of 19,312,000 bushels into Trunk Line Territory occurred in 1924–25, a year in which well over 6,000,000 bushels were sold or offered for sale from farms in the area. Shipments were at a minimum of 7,206,000 bushels in 1931–32, another year of short crop; indeed, there was an indicated surplus of over a million bushels in the territory in that year. For oats as for corn, the amounts fed on farms in Trunk Line Territory much exceeded the normal requirement as determined by the United States average. This excess stood at a minimum of 10,000,000 bushels in the short-crop year of 1932–33 and reached a maximum of over 42,000,000 bushels in 1930–31, when the corn crop was short.

To an even greater extent than in Trunk Line Territory, feeding of oats in Ohio, Indiana, and Michigan was above the normal feeding requirement of the United States. Amounts fed on farms during the nine-year period in excess of normal needs varied from

13,000,000 to a maximum of 74,000,000 bushels. In spite of unusually heavy feeding large surpluses entered the cash market, varying in size from 33,493,000 in 1932–33 to a maximum of 72,828,000 in 1924–25. Shipments from Chicago rose above 5,000,000 bushels only in 1929–30, a year of short crop; they were as low as 2,300,000 in 1925–26. Why any shipments should be made into a territory which had for sale not less than 33,000,000, and in four years out of the nine over 70,000,000, bushels for sale above its requirements is difficult to understand

TABLE IV

OATS SHIPMENTS FROM CHICAGO COMPARED WITH OATS DEFICIT OR SURPLUS IN THE DESTINATION AREAS, 1924–25 TO 1932–33

(In bushels, 000 omitted)

	New England		Trunk Line		Central Freight Association		Southern	
	Deficit	Shipments	Sold or† for Sale	Shipments	Sold or for Sale	Shipments	Deficit	Shipments
1924–25*....	3,164	11,161	6,454	19,312	72,828	3,832	102,049	8,400
1925–26*....	2,203	7,819	6,322	16,732	70,420	2,322	102,038	2,598
1926–27*....	1,185	5,384	5,449	16,915	70,905	2,624	68,957	2,526
1927–28.....	3,423	6,590	774‡	17,555	45,266	4,945	80,889	3,576
1928–29.....	9,725	6,105	2,594‡	11,382	71,219	2,510	103,815	2,231
1929–30.....	2,699	4,425	4,778‡	14,929	37,193	5,374	76,896	2,284
1930–31.....	4,521	2,145	3,892‡	10,167	41,820	4,826	121,973	2,583
1931–32.....	5,996	1,913	1,393	7,206	41,847	5,688	95,527	69
1932–33*....	3,826	933	2,585	13,121	33,493	2,808	112,516	139

* No data on milling requirement for these years.

† Amount sold or offered for sale, less milling requirement.

‡ Excess of milling requirement over amount sold.

on any other supposition than that these shipments were seasonal replacements of oats which had already been moved into the South to meet the heavy feeding deficits there.

Both corn and oats deficits in Southern Territory may be exaggerated by the fact that the feeding practice with respect to cattle and hogs may be below the average for the country. Large numbers of horses and mules bring the indicated oats deficit above 100,000,000 bushels in five of the nine years; the low point of 69,000,000 bushels was reached in 1926–27.

Chicago's share of this market through direct shipments was

small. A maximum of 8,400,000 bushels, or 8.2 per cent of the indicated deficit, was shipped in 1924–25, while in 1931–32 a minimum of 69,000 bushels was shipped. Average shipments over the period were only 2.8 per cent of the indicated deficit.

When one seeks an explanation for the annual variation in volume of shipments of the different grains from Chicago to the several destination areas he is compelled to notice the presence of a number of interrelated factors, some of which work in harmony with each other, others at cross-purposes. In a general way the influence on the volume of shipments of consumption deficits or of surpluses in the destination areas has been shown. In attempting a more specific kind of explanation the problem will be simplified by confining attention to variation in corn and oats shipments to Trunk Line and Central Freight Association territories only. Shipments of corn and oats approximated 64 per cent of the total shipments from the market during the nine-year period, while about 58 per cent of the corn and 55 per cent of the oats shipments went into the foregoing territories. Domestic shipments of wheat do not depend upon as involved conditions as those which determine the movement of feed grains. Separate consideration of New England may be omitted because the problem of New England is practically identical with that of Trunk Line Territory. An understanding of conditions affecting shipments into Southern Territory depends upon information of shipments from other markets moving into this territory, as well as further detailed knowledge of the peculiar consumption demands of this area.

Attention will be directed to the relation of the shipment of the feed grains to the relative amounts of feed crops fed on the farm, the amount of crop sold or offered for sale, and the evidence of feeding practice above normal requirements. The percentage of crop fed on farms will in turn be related to ratios of animal product prices to feed-grain prices in the consuming area, and these ratios in turn related to shipments from Chicago. Variations in size of crop, as between shipping and importing territories, have a marked influence on the way in which the foregoing relations operate in different consuming areas.

Working at cross-purposes with favorable import conditions

is the possibility of substituting one feed grain for another when one crop is short. The increased relative cost of transportation from Chicago to destination areas, which accompanied the drastic decline in grain prices after 1930, is a further complicating factor.

Corn shipments to Trunk Line Territory.—After making allowance for the milling requirement, the amount of corn fed to animals in this territory is below the normal feeding requirement for the country as a whole. These deficits increase with the decreased feeding per animal unit and with reduction in the size of crop; they decrease with increased feeding per animal unit, increased

TABLE V

PERCENTAGE OF DIFFERENT CROPS FED ON FARMS IN TRUNK LINE AND CENTRAL FREIGHT ASSOCIATION TERRITORIES, 1924–25 TO 1932–33*

	Trunk Line					Central Freight Association				
	Wheat	Corn	Oats	Barley	Rye	Wheat	Corn	Oats	Barley	Rye
1924	21.2	94.5	91.0	89.3	41.3	7.2	90.4	62.4	83.5	20.7
1925	19.7	86.2	92.0	91.3	41.6	6.6	83.1	63.8	86.0	22.4
1926	20.0	90.4	92.4	91.4	40.0	5.7	82.3	62.4	85.2	27.7
1927	25.0	92.4	92.1	91.9	34.9	9.3	91.9	70.2	87.1	26.7
1928	27.5	93.6	94.0	93.3	32.7	13.9	89.9	68.9	85.2	31.5
1929	26.5	94.6	96.4	95.0	40.5	12.4	89.9	72.9	91.9	31.1
1930	40.4	96.9	96.1	96.2	50.8	37.2	91.2	75.7	91.9	45.1
1931	33.9	94.5	94.0	92.3	71.3	30.8	80.5	74.5	91.1	67.7
1932	40.7	95.5	95.0	93.9	75.9	29.3	83.6	76.1	93.0	69.8
1933	35.9	95.4	94.4	94.4	.....	24.9	88.0	84.5	95.1	.....

* Source: *Farm Value, Gross Income, and Cash Income from Farm Production, op. cit.*

size of crop, and the feeding of corn imported from other sections. A study of the data indicate, however, that corn deficits are made up usually by the increased feeding of other grains rather than by the increase of corn imports.[20] In this connection it is interesting to contrast the change in feeding practice in this territory with that in Central Freight Association Territory where there is typically a corn surplus.

Shipments of corn from Chicago to Trunk Line Territory do have a very definite relation to the amount of corn sold or offered

[20] Imports of corn may have come from other markets than Chicago.

for sale from farms in the territory. When the amount sold increases from one year to the next the amount imported from Chicago decreases. This relation holds in six out of nine years. In the three years in which corn shipped failed to increase with a decrease in the amount of corn sold there was a marked increase in the percentage of wheat, barley, and rye fed on farms. A generally short corn crop in 1930–31 also operated to depress corn shipments from Chicago. An even closer inverse relation prevails between corn shipments and corn fed on farms. Corn shipments increase from year to year as the amount of corn fed on farms in the territory decreases and vice versa. This relation holds except for 1929–30 and 1930–31 (Table VI).

It is recognized that a change in the relation of corn prices to animal or animal product prices will affect the amount fed and the demand for corn imports. When a ratio of corn prices at the farm in the state of New York to the farm price of live hogs in the same state was compared with the relative increase in amount of corn fed on the farm it was found that in five years of the nine farmers increased the amount fed when the price ratio was favorable, or decreased the amount fed when the ratio was unfavorable, as compared with a previous year.[21] In two of the four years in which this was not the case (1926–27, 1932–33) decreased feeding of corn was due to a short crop which was supplemented by increased shipments from Chicago. In 1929–30 supplies in the territory were again short but shipments from Chicago declined slightly in spite of a favorable feeding ratio. In 1928–29 increased feeding accompanied a sharp drop in the feeding ratio, but this was offset by a decrease in shipments from Chicago.

The relation of changes in volume of shipments to changes in the feeding ratio does not seem to be as significant as that between the ratio and the amount fed on farms. In only three out of nine years does the expected positive relation between the feeding ratio and shipments exist. Rather the effect of the feeding ratio

[21] Similar ratios of corn prices to egg prices, and of corn prices to butter fat prices, showed similar tendencies except in 1930–31, when the corn-hog ratio improved while the other two became less favorable. Data of prices were taken from *Farm Economics*, February, 1934 (New York State College of Agriculture).

registers on shipments through the available supplies of feed grains and feeding practice on farms in the territory. In three years increased feeding in response to a favorable feeding ratio was accompanied by decreased shipments from Chicago. In one of these years, 1925–26, there was a large crop of corn in the east; in the remaining two years other grains, especially wheat and rye, were used in increased quantities to supplement corn. In three years shipments increased to supplement a decline in the amount

TABLE VI

COMPARISON IN TERMS OF RELATIVES OF SHIPMENTS OF CORN FROM CHICAGO TO TRUNK LINE TERRITORY WITH CORN FED ON FARMS AND CORN SOLD IN THE TERRITORY, AND WITH THE RATIOS OF CORN PRICES TO PRICES OF LIVE HOGS, BUTTER, AND EGGS*

(1924–25 = 100)

	Corn Fed	Corn Sold	Corn Shipped	Corn-Hog Ratio	Corn-Butter Ratio	Corn-Egg Ratio	No. Animal Units in Trunk Line
1924–25	100	100	100	100	100	100	100
1925–26	127	291	69	126	95	100	97
1926–27	111	167	74	179	129	126	96
1927–28	102	117	113	142	124	109	98
1928–29	102	97	94	116	110	103	96
1929–30	96	76	91	125	112	111	94
1930–31	74	31	67	131	105	103	93
1931–32	120	96	65	131	110	109	94
1932–33	97	62	171	132	129	146	96

* All prices are prices paid to producers in New York.

of corn fed when the feeding ratio was favorable. In the remaining two years, shipments declined; in one of these years supplies in the territory were short while the feeding ratio was favorable; in the other year the amount fed increased while the feeding ratio was unfavorable.

In a territory which habitually feeds less than a normal quantity of corn per animal unit it might be expected that a reduction in the amount fed from one year to the next, without a corresponding reduction in the number of animal units, would be reflected at once in increased corn imports. It must be remembered, however, that the period under consideration is without precedent in terms

of the accumulation of crop surpluses and consequent price decline. A large premium was placed upon the utilization of other crops not generally used for feed, such as wheat and, to a less extent, rye and barley, to supplement corn shortage and economize the farmer's cash at a time when his purchasing power was low. A different behavior of corn shipments might well be expected under more normal conditions.[22]

Oats shipments to Trunk Line Territory.—After allowing for oats sold and milling requirements, oats fed were in excess of a normal feeding requirement except in the years 1927–30. In three of the four years in which deficits were present, shipments from Chicago increased when the deficit increased and decreased when the deficit decreased. In the years in which there was a surplus of oats for sale in the territory above the normal feeding and milling requirement, there seems to be no relation between the amount of oats shipped from Chicago and the volume sold. In this respect oats differ from corn.

When oats shipments are compared with the volume of oats fed on farms, however, the relation is inverse in all but three years. In one of the three years (1927–28), shipments increased along with an increase in the amount fed. In the other two years (1928–29, 1931–32) shipments declined with a decline in the amount fed. In both these years increased percentages of wheat, barley, and rye were fed, while in the latter year the oats crop in the country was short and shipments from Chicago were generally curtailed.

Oats are principally used for the feeding of horses and mules. The index of oats shipments over the period declines along with the index of horses and mules on farms. No information was available on horses in cities, but it may be assumed that the decline there was even more drastic. Changes in oats shipments from year to year, however, are influenced by other factors than decline in number of horses and mules.

Because of the variety of uses of oats as feed, it was difficult to get a satisfactory ratio of oats prices to animal product prices.

[22] It should be remembered, however, that large movements of feedstuffs are consigned to this area, particularly cottonseed cake and meal from the South, gluten feed and meal from Corn Belt plants, and bran and middlings from Buffalo.

It is here assumed that the feeding value[23] of oats is generally the same as that of corn, except for changes in the relation of the size of the two crops. An increase in the size of one crop relative to the other may normally be expected to decrease the price of the larger crop relative to the smaller and to induce increased feeding of the cheaper crop. A ratio of the New York farm price of oats to the farm price of corn was determined, and comparison made with the relative amount of oats fed on farms and oats shipped in from Chicago.

TABLE VII

COMPARISON IN TERMS OF RELATIVES OF SHIPMENTS OF OATS FROM CHICAGO TO TRUNK LINE TERRITORY WITH OATS FED ON FARMS AND OATS SOLD IN THE TERRITORY, AND WITH A RATIO OF OATS PRICES TO CORN PRICES, AND AN INDEX OF HORSES AND MULES ON FARMS (1924–25 = 100)

	Oats Fed	Oats Sold	Oats Shipped	Ratio Oats* Prices to Corn Prices	Horses and Mules on Farms (Trunk Line)
1924–25.....	100	100	100	53.0	100
1925–26.....	111	98	87	53.6	96
1926–27.....	102	84	88	58.1	90
1927–28.....	108	15	91	57.3	86
1928–29.....	101	40	59	54.5	82
1929–30.....	82	74	77	56.3	78
1930–31.....	129	60	53	48.9	75
1931–32.....	78	22	37	55.0	73
1932–33.....	76	40	68	55.8	71

* The ratio of oats to corn is based on farm prices in New York.

It seemed reasonable to expect that an increase in the price of oats relative to the price of corn would result in decreased feeding of oats and increased shipments from Chicago. This proved to be the case in 1926–27, 1929–30, and 1932–33; it was not true in 1925–26. In this latter year the increase in the relative price of oats was small and oats fed increased while shipments declined. In 1931–32, also, a relative increase in price was marked by a sharp decrease in amount fed, but shipments decreased. In this year the oats crop in the country was generally short and shipments from Chicago were at a minimum for the period.

[23] The feeding value of oats depends on the species of livestock fed. The total digestible nutrients of corn total more than oats.

Only in 1930–31 was it true that a decrease in the relative price of oats resulted in increased feeding of oats and decreased shipments from Chicago. This was a year of large oats crop and small corn crop. In 1927–28, the price of oats relative to corn decreased, the amount fed increased and shipments increased. The ratio of corn price to hog prices and animal product prices was favorable to increased feeding in this year. The year following, however, the feeding ratio of corn was decidedly unfavorable. A decrease in the relative price of oats did not induce heavier feeding, more oats were sold, and a smaller amount shipped in.

With oats as with corn, purchases by farmers in the cash market during the period under consideration were affected by an oversupply of other grains which were worth more on the farm as feed after 1930 than they were in the cash market. An unusual degree of substitution took place toward the end of the period in response to a general decline in cash income and sharp increases in the relative cost of transportation from distant markets.

Corn shipments to Central Freight Association Territory.—This territory, made up of Ohio, Indiana, and Michigan, is in sharp contrast to the Middle Atlantic states which compose Trunk Line Territory. These three states typically have large surpluses of corn for sale in the open market; only in 1924–25 and 1927–28 was there less corn than needed to take care of milling and feeding requirements. Shipments from Chicago in both these years were stimulated; in 1927–28, when the deficit was largest, the largest shipment from Chicago occurred. In the remaining years when there was a surplus of corn for sale, shipments from Chicago were in an inverse relation except in 1929–30, when increased feeding of oats and barley helped to take the place of corn; and in 1930–31, when there was a general corn shortage in the country.

Corn fed on farms showed the same relation to shipments from Chicago as corn sold; the relation was inverse except during 1929–31. It should be noted that in this nearby territory, as in the Trunk Line area, other grains were substituted for increased corn imports to take advantage of improved feeding ratios from 1929 to 1933.

The influence of the feeding ratio on shipments from Chicago must again be considered in relation to the effect of changes in

the ratio on feeding practice. In two years increased amounts fed were in response to improvement in the feeding ratio, and in both years shipments from Chicago declined. In both years large corn crops prevailed. In two years, also, a decrease in the amount fed, accompanied by an increase in the feeding ratio, resulted in increased shipments from Chicago. Decreased shipments from Chicago occurred under identical conditions in 1929–30 and 1930–31. In the latter year, however, there was a general corn shortage, and in the earlier year large quantities of oats and barley were

TABLE VIII

COMPARISON IN TERMS OF RELATIVES OF SHIPMENTS OF CORN FROM CHICAGO TO CENTRAL FREIGHT ASSOCIATION TERRITORY WITH CORN FED AND CORN SOLD IN THE TERRITORY, AND THE CORN-HOG RATIO* (1924–25 = 100)

	Corn Fed	Corn Sold†	Corn Shipped	Corn-Hog Ratio	Animal Units in C.F.A.
1924–25	100	4	100	100	100
1925–26	166	100	80	158	94
1926–27	139	86	92	113	96
1927–28	115	22	151	82	98
1928–29	137	38	101	92	94
1929–30	117	30	80	102	88
1930–31	92	19	66	102	86
1931–32	140	106	32	122	91
1932–33	127	88	36	91	101

* The corn-hog ratio is based upon farm prices of corn and hogs in Ohio.
† 1925–26 = 100.

substituted for corn in the feeding ration. Decreased shipments also accompanied an increase in amount fed when the feeding ratio was unfavorable in 1928–29. Finally, an increase in shipments took place in 1927–28, when there was a short crop in the territory. The feeding ratio in this year declined but it was still above the average for the period and at a profitable level.

When amounts fed on farms declined and conditions were favorable to corn imports, it is reasonable to assume that a failure of shipments from Chicago to respond implies either a general crop shortage or imports into the territory from other markets. After 1929, however, the substitution of wheat, rye, and barley took the place of the usual imports.

Oats shipments to Central Freight Association Territory.—There was no year in which the territory did not have a surplus of oats for sale above milling and normal feeding requirements. The relation of oats shipped to oats sold is inverse in but four of the eight years. Oats shipped from Chicago are a much smaller proportion of oats sold in the territory than is the case with corn; the stability of the relation is therefore much more easily disturbed by a short crop or changes in the seasonal shipments out of the territory. Since the territory is on an exporting basis any ship-

TABLE IX

COMPARISON IN TERMS OF RELATIVES, OF SHIPMENTS OF OATS FROM CHICAGO TO CENTRAL FREIGHT ASSOCIATION TERRITORY WITH OATS FED ON FARMS AND OATS SOLD IN THE TERRITORY, AND THE RATIO OF OATS PRICES TO CORN PRICES AND HORSES AND MULES ON FARMS (1924–25 = 100)

	Oats Fed	Oats Sold	Oats Shipped	Ratio Oats to Corn Prices*	Horses and Mules in C.F.A.
1924–25.....	100	100	100	50.0	100
1925–26.....	103	97	61	68.4	97
1926–27.....	97	97	68	65.0	93
1927–28.....	95	62	129	58.4	89
1928–29.....	135	98	66	55.3	85
1929–30.....	87	51	140	57.7	81
1930–31.....	117	57	126	52.2	79
1931–32.....	103	57	148	67.6	77
1932–33.....	88	46	73	56.3	75

* The ratio of oats to corn is based on farm prices in Ohio.

ment from Chicago must be largely seasonal. May is the month of heaviest shipment from Chicago, with June of equal importance with March and April. The movement during the spring and summer is much larger than in the fall and winter. It may therefore be assumed that much, if not all, of the imports are for local consumption to replace oats which have been shipped out of the territory. Corn shipments from Chicago to this territory have a like seasonal character.

Quite in contrast to the relation of shipments to amount of oats sold, there is almost a perfect inverse relation between the amount of oats fed and the change in volume of shipments from Chicago. Only in 1932–33, when the relative cost of transportation was

greatly increased and the crop was generally short, did this relation fail to hold.

The relation of oats shipments into Central Freight Association Territory to changes in number of horses and mules on farms appears to be not so significant as for Trunk Line Territory. While horses and mules decrease, the amount of oats fed on farms and shipped in from Chicago increases.

As oats increased in price relative to corn, less oats were fed and shipments from Chicago increased in 1929–30 and 1931–32. This was not true in 1925–26, when there was a sharp increase in the relative price of oats but more were fed and less shipped in. The corn-hog ratio in Ohio was at a maximum for the period in this year.

As oats decreased in price relative to corn, more oats were fed and less were shipped in from Chicago in 1928–29 and 1930–31. In 1926–27, 1927–28, and 1932–33, however, decreased relative prices of oats did not have like results. In 1926–27 oats fed decreased and shipments increased. In 1927–28, oats fed decreased again, while shipments increased notably; in this latter year the prices of both grains were advancing but corn prices increased more rapidly than oats prices. In 1932–33, the relative price of oats declined but a short crop resulted in a decreased amount fed. Shipments from Chicago declined under the pressure of increased relative cost of transportation and reduced buying power of farmers.

The percentage of the oats crop fed on farms in this territory is much less than in Trunk Line Territory. It is worth noting, however, that the percentage fed increases steadily throughout the nine-year period. This is mainly because of crop shortages. In the later years, also, steadily improving feeding ratios, as well as increased relative costs of transportation, had much to do with feeding a larger percentage of the crop on the farm.

Shipment of millfeeds.—Processed feeds in the form of dairy and poultry rations are in competition with the feed grains which make up the bulk of these feeds. Therefore the price relation between manufactured feeds and corn and oats is a determining factor in the sale and shipment of millfeeds from Chicago. To register more accurately the price relation in the consuming terri-

tory east of Chicago, a ratio of dairy and poultry ration prices to corn prices was computed, based on prices at Utica, New York, for feed, and on the farm price of corn in New York. A corn-hog ratio used for comparison was also based on New York farm prices.[24] East-bound shipments of millfeeds by rail and lake from Chicago were reduced to index numbers based on 1910–14 as 100.

When the ratio of corn prices to dairy ration prices is compared with the index of shipments of millfeeds, an inverse relation is found in all but two years; and the same kind and degree of relation prevails when shipments are compared with the ratio of corn prices to poultry-ration prices. In substance, shipments of millfeeds from Chicago increase when the number of bushels of corn required to buy a ton of dairy or poultry ration decreases; shipments decrease when the number of bushels of corn required to make the purchase of manufactured feed increases.

When the dairy ration is used as the basis of comparison, the foregoing relation fails to hold in 1925 and in 1931. In 1925 shipments of corn decreased, although the number of bushels of corn required to purchase a ton of dairy ration decreased. In this year the corn crop was unusually large and amounts fed on farms were at a maximum for the nine-year period in both Trunk Line and Central Freight Association territories. In spite of the large crop, farm prices in New York rose in 1925, thus creating a favorable ratio of corn to dairy ration. Farmers evidently preferred to feed the surplus corn on their farms rather than exchange corn for feed.

In 1931 shipments of feed fell off sharply, while the purchasing power of corn in terms of dairy ration was only fractionally lower. By this time, however, the increased relative cost of transportation was beginning to operate as a bar to feed shipments. Farm purchasing power was reduced and increased feeding of other grains took the place of purchased feed.

When the ratio of corn prices to the price of poultry ration is compared with feed shipments from Chicago, the usual inverse relation prevailed except in 1928 and 1931. It will be recalled that when the dairy-ration price was brought into relation with corn

[24] Data from *Farm Economics*, February, 1934 (New York Agricultural Experiment Station).

prices the inverse relation failed to hold in 1925 and 1931. In 1928 shipments were down in spite of an improvement in the purchasing power of corn in terms of poultry ration. The reason for the lack of agreement between the two price ratios was the fact that the increase in the price of dairy ration was greater in proportion to the increase in corn prices than the increase in the price of poultry ration. The fact, too, that in this year the feeding

TABLE X

RELATION OF SHIPMENTS* OF MILLFEEDS FROM CHICAGO TO INDEXES OF RATIOS† OF CORN PRICES TO POULTRY AND DAIRY RATION PRICES, AND TO AN INDEX OF RELATIVE FREIGHT COST (1924 = 100)

	Index East-bound Shipments‡	No. Bushels Corn to Buy 1 Ton Dairy Ration§	No. Bushels Corn to Buy 1 Ton Poultry Ration§	Corn-Hog Ratio§	Freight as a Percentage of Delivered Value‖
1924	100	100	100	100	13.2
1925	96.8	91.4	100.7	126	13.1
1926	89.0	111.2	120.6	179	14.8
1927	96.3	109.4	115.0	142	13.6
1928	86.5	111.0	109.8	116	12.1
1929	97.0	106.1	104.1	125	12.9
1930	100.9	101.0	99.2	131	14.9
1931	77.4	100.0	95.8	131	20.8
1932	67.9	129.3	119.3	132	27.5
1933	58.7	120.1	120.4	105	22.8

* An index of shipments on a 1910–14 base is here restated in terms of relatives to the index of 1924 as 100.

† Ratios of corn price to prices of hogs, and to dairy and poultry ration, are here expressed in terms of relatives to the ratios for 1924 as 100.

‡ Includes shipments by lake.

§ Corn and hog prices are New York farm prices. Prices of dairy and poultry ration are f.o.b. Utica, New York. Data from *Farm Economics*, February, 1934 (New York Agricultural Experiment Station).

‖ Delivered value equals Utica prices for dairy ration feed (*Farm Economics* [New York Agricultural Experiment Station]).

ratio, as shown by the corn-hog ratio,[25] was unfavorable to making profit probably had much to do with the sharp drop in the demand for millfeeds.

In 1932 and 1933 feed shipments were sharply contracted because prices of dairy and poultry ration failed to decline in proportion to the decline in the farm price of corn. Contraction was

[25] Ratios of corn prices to egg and butter prices in New York in this year show a relation unfavorable to profitable feeding. See Table VI.

further stimulated by the increased relative cost of transportation. Ratios of corn prices to animal-product prices were favorable to profit making after 1930, but this favorable relation was not enough to overcome the lack of adjustment of corn prices to the price of processed feeds and the relatively high transportation cost of importing feedstuffs from a distant market.

EFFECT OF TRANSPORTATION RATES ON GRAIN SHIPMENTS

A discussion of this problem requires attention to at least three major aspects: (1) the competitive status of Chicago compared with other shipping markets in terms of rail and water rates and rate privileges; (2) the use of the transit[26] privilege and a reshipping or proportional[27] rate to extend the distribution area tributary to Chicago; (3) the effect on shipments of the increased relative cost of transportation owing to the decline in grain prices.

Proportional rates from other western markets to eastern points generally tend to exceed those from Chicago by fixed amounts or differentials. The basic Chicago reshipping rates in cents per 100 pounds in effect prior to July 1, 1934, to selected eastern points in Trunk Line Territory are as follows: Buffalo, 19; Cumberland, 25; Rochester and Syracuse, 25.5; Baltimore, Utica, and Norfolk, 27; Philadelphia, 28; Albany, 29; New York, 30; Boston, 32. Rates from Peoria to these destinations on grain originating from central Illinois and from Trans-Mississippi Territory are 2 cents higher than the rates from Chicago. Rates from Peoria on grain originating in Northwestern Territory are the same as those from Chicago.

Rates to the foregoing destinations on grain moving from

[26] The purpose of a transit privilege is to allow a shipment to be withdrawn temporarily from transportation to be processed or stored and to move later to its ultimate destination at approximately the through rate from origin to final destination.

[27] A reshipping rate is one which is used to cover the outbound movement on a shipment which had previously been shipped into the point from which it is reshipped. The use of the reshipping rate contemplates the detention of the original shipment at the reshipping point for trading or selling purposes. The shipment usually changes ownership before being reshipped. Such rates provide reasonable through rates for the carriage of commodities from producing points to ultimate consuming points when such commodities are first consigned to a primary market.

St. Louis and originally from Trans-Mississippi origins are 4 cents higher than the Chicago rates; for grain originating in Northwestern Territory the differential is 4 cents. From central Illinois points the rates from St. Louis are 4½ cents over Chicago.[28] Rates from other markets to points in Trunk Line Territory exceed those from Chicago by the following amounts: Duluth, 13 cents for wheat and 11½ cents for corn; Sioux City and Omaha, 17½ cents for wheat and 16 for corn; Kansas City, 17½ cents for wheat and 16 cents for corn.

These rate differences, which appear to favor Chicago on the outbound grain movement to points in Trunk Line Territory, are equalized by differences on the inbound rates which favor Peoria, St. Louis, and other western markets more than Chicago. The combination of the proportional rates in and out of the markets is such as to keep the different markets in balance in terms of an all-rail movement.

Rates from Chicago to points in Central Freight Association Territory on grain with a Trans-Mississippi origin are generally 2 cents under Peoria and 4 cents under St. Louis. Important exceptions are the rates to Indianapolis, to Lafayette, Indiana, and to Dayton, Ohio. On grain originating in Northwestern Territory, rates from Peoria are generally on an equality with rates from Chicago to points in Central Freight Association Territory. On grain of similar origin a differential of 4½ cents under St. Louis prevails at Chicago to South Bend and Logansport, Indiana; at Fort Wayne the difference is 2½ cents; to Indianapolis Chicago is 1 cent under; at Michigan points rates from St. Louis on grain originating Northwest are equal to or 2½ cents over Chicago rates.

[28] The reshipping, or proportional, rates from St. Louis exceed the reshipping, or proportional, rates from Chicago by 4 cents per 100 pounds, regardless of the origin of the grain, whether in Trans-Mississippi River or Northwestern territories or in Illinois. However, the one-factor through rates that are in effect from central Illinois to eastern Trunk Line Territory (east of and including the western termini of eastern trunk lines, Buffalo, Pittsburgh, etc.) apply via St. Louis, with transit thereat, the same as via Chicago and Peoria. The effect of this plan of equalization is to apply east of St. Louis to destinations in eastern Trunk Line Territory a balance of the through rate which is the same in amount as the reshipping, or proportional, rate from Chicago—this for the reason that the local rate to St. Louis from central Illinois is the same in amount as the specific, or division, to Chicago of the through rate.

At Cleveland and Columbus, St. Louis is 2 cents under Chicago; at Dayton, 3 cents over.

On most grain originating in Illinois and moving to points in Central Freight Association Territory the rates from Chicago and Peoria are the same in amount, although to the more distant points, such as eastern Ohio, the rates from Chicago are generally ½ cent less than from Peoria. However, in view of the lower local rates to Peoria than to Chicago from central Illinois, the through combination rates are, of course, lower via Peoria than via Chicago. Chicago is from 1 to 4 cents under St. Louis on grain moving from Illinois to points in Michigan. To other important points in Central Freight Association Territory, the rate relation with St. Louis on grain originating in Illinois is essentially the same as the relation prevailing for grain originating northwest.

To the Ohio River crossings at Evansville and Cincinnati, rates from Chicago on all grain are on an equality with rates from Peoria—except to Cincinnati, where the rate from Chicago is ½ cent under. The Chicago rate to Evansville, however, is 6 cents over St. Louis, on grain of Trans-Mississippi or Northwestern origin, and 5½ cents over on grain of Illinois origin. Chicago has an advantage of from 1½ to 2 cents under St. Louis to Cincinnati, depending upon whether the grain originates northwest or from Illinois.

It is apparent from the foregoing that all markets and shippers are fairly well equalized with respect to all-rail rates to points east of Chicago and on and north of the Ohio River—although, of course, the geographical location of Chicago is such that that market is at a disadvantage with markets like Cairo, St. Louis, and Memphis in serving the Southern Territory. These rate advantages and disadvantages are verified in the relative volume of shipments moving from Chicago to the respective territories.

The advantage Chicago has in shipping to eastern points is access to cheap water transportation. This advantage is shared with Milwaukee and Duluth. The water rate to Buffalo on wheat in 1933 from Milwaukee was 0.18 of 1 cent per bushel under the rate from Chicago. Like rates from Duluth in 1925, 1926, 1927, 1931, and 1932 were respectively .53, .37, .21, .23, .07 of 1 cent

higher than the rate from Chicago. The higher rate from Duluth was more than offset by differences in the inbound rail rate. Except in 1927, water rates to Georgian Bay ports were generally lower than rates to Buffalo. On corn, the advantage of Georgian Bay ports over Buffalo varied from .13 to .68 of 1 cent a bushel.

The advantage to Chicago of water transportation is measured by the difference in cost of a movement all-rail to New York and a movement by lake to Buffalo and thence by rail to New York. There is a transfer charge of 1 cent a bushel at Buffalo. Using the proportional rail rate to New York for a domestic shipment, the average difference between the two rates was 3.69 cents per bushel for wheat and corn for the ten years 1924–33. The maximum difference was 4.89 cents in 1926, the minimum 3.23 in 1932.

A more striking difference is apparent when the all-rail proportional rate to Buffalo of 19 cents[29] a 100 pounds (11.4 cents a bushel) is compared with the water rate to Buffalo. The average water rate to Buffalo per bushel over the ten-year period for wheat was 1.95 cents, for corn 1.98, and for oats 1.63 cents. Thus there was an average advantage in using the water rate of 9.45 cents on wheat, 9.42 on corn, and 9.77 cents a bushel on oats. The large milling capacity at Buffalo and the large consuming territory accessible from this point by truck make these water rates very significant. Along with the pressure of low grain prices, these rate differentials have caused a very large diversion of grain from rail to water routes.[30]

THE USE OF TRANSIT BALANCES

The foregoing discussion of rail rates has been based entirely upon proportional rates, that is, a rate lower than a flat or local rate and one which presumes a previous transportation to the point from which the proportional rate applies. Grain moving east from origin points in the western grain states may move on a combination of proportionals made through one or more markets, or on a "transit balance" out of an intermediate market. A

[29] From points in Illinois the rail rate is 18½ cents.

[30] See Table XI; also *The Grain Supply Area of the Chicago Market*, p. 7, for the relation of rail and water rates and grain moving under each rate back to 1887.

transit balance is a part of an overhead through rate from point of origin of shipment to final destination, the through rate being less than the combination of proportionals through the transit point. Shipments are billed inbound to the transit point at the local rate. On the outbound shipment the amount paid is the difference between the through rate from point of origin to final destination and the local rate from point of origin to the transit point. This difference is known as the "transit balance."[31]

Generally, in order to be available for transit at Chicago, grain moving into the market must be reshipped to some point east of the Illinois-Indiana state line. In addition to other strict policing requirements published in transit tariffs on file with the Interstate Commerce Commission, the grain must be registered for transit on arrival with the transit department of the railroad, and the inbound expense bill surrendered. The amount shipped out under a transit rate may be equal to but not more than the amount registered. Billing covering grain from any origin may be properly applied, as it is not required that the identity of the grain registered be preserved. Practically all wheat, and a very large proportion of the other grains received at Chicago, are registered for transit.[32]

The advantage to shippers in using a transit rate is evident in the following examples. From McClean, Illinois, to Detroit, Michigan, the through rate with transit at Chicago is 20½ cents a hundredweight. The local rate into the market is 12½ cents while the transit balance is 8 cents from Chicago to Detroit.[33] If proportional rates are used on the outbound movement, the rate into the market is 12½ cents while the proportional to Detroit is 14½. While the cost of getting the grain into Chicago is 1 cent higher, the transit balance out is 6½ cents lower. On grain originating at Walton, Illinois, and destined to Indianapolis, the transit balance is 9 cents while the proportional rate out is 11½ cents.[34]

On grain originating at Rosamond, Illinois, and destined to

[31] 164 I.C.C. 633.

[32] Estimated at 97 per cent of all grain billing.

[33] Alton tariff No. 1604-L, I.C.C., No. 30.

[34] C.B. & Q. tariff No. 6786-J, I.C.C. No. 17174.

Buffalo, the transit balance is 15½ cents while the proportional rate is 18½ cents.[35] On grain originating at Cullom, Illinois, and destined to Pittsburgh, the transit balance is 17 cents while the proportional rate is 18½.[36] Like advantages accrue on the shipment of grain products and milled feed which enter the market as grain and leave as manufactured products.

The advantage in using transit balances depends largely upon the origin of the grain and the ability of the shipper to forward grain which comes in with favorable billing on an outbound movement, which might otherwise take a proportional rate, while disposing of grain with unfavorable billing in the local market. Examples of such unfavorable billing may be cited. On grain originating in Indiana on the lines of eastern roads and moving to Chicago, the transit privilege is extended only on the condition that the outbound movement takes place over the same road and be destined to a point in Trunk Line Territory. Grain received over such roads may be sent east by lake.

On grain moving to points in Central Freight Association Territory, the reshipping rates are less on grain of Trans-Mississippi origin. On grain originating in Illinois or Northwestern Territory and destined to Central Freight Association Territory, only reshipping or proportional rates are available out of Chicago. Such grain may go east by lake, or be transited to points in Trunk Line Territory. To Southern Territory, Kansas City billing is best, since the grain can come out of Kansas City on a proportional to the Ohio River crossings with stop in transit at Chicago. This allows a shipment out of Chicago into Southern Territory at a 2-cent balance over Kansas City—which, of course, is merely to equalize the two competitive markets.

Both Peoria and St. Louis have the transit privilege by the use of which shippers at these markets seek equality with Chicago. Chicago has an advantage in drawing grain from a wider territory, a fact which gives shippers at the market a greater latitude in applying billing of an origin favorable to a particular destination, on grain already registered for transit but of an

[35] C. and E.I. tariff No. 615-A, I.C.C. No. 234.

[36] I.C. tariff No. 1809-M, I.C.C. No. A-10793.

origin unfavorable to a low reshipping rate. The grain with unfavorable billing may be released to local processing plants or shipped by lake. If shipped by lake, however, the low inbound rate from point of origin does not apply.

INCREASED RELATIVE COST OF TRANSPORTATION

It has already become evident that, although rail rates to the east were not increased from 1924 to 1933, nevertheless, because of the drastic decline in grain prices after July, 1931, there was an increase in the freight cost relative to the value of the grain. Beginning in 1931 lake rates to Buffalo did show considerable contraction.[37] Two effects on shipments should be noted: the shrinkage in total shipments as the rate burden increased, and the diversion of tonnage from rail, to lake and rail, as the lake rate was lowered.

A ratio was taken of the all-rail and lake-rail rates on wheat, corn, and oats to the delivered value of these grains in New England, Trunk Line, and Central Freight Association territories. Delivered value was arrived at by adding to the Chicago price the freight cost to destination. In each destination area typical points were selected and an average delivered value and freight cost for each territory was arrived at by averaging the rates to these points.[38] An index of shipments of each grain via rail and lake-rail from Chicago to each territory was made, using 1924–25 as a base year. The resulting comparison of the index of shipments with the ratio of transportation cost to delivered value of the grain is shown in Table XI.

[37] To Buffalo in cents per bushel the lake rate on wheat, using a weekly average, was 2.10 in 1929 but dropped to a low of 1.53 in 1932. On corn the rate dropped from 2.11 in 1929 to a low of 1.47 in 1933. On oats the decline was from 1.75 in 1929 to 1.24 in 1933. Data from Board of Trade *Annual Reports*.

[38] To Trunk Line Territory an average of proportional rates was taken to Baltimore, Washington, Newport News, Norfolk, Syracuse, Rochester, Utica, Philadelphia, Scranton, Wilmington, Albany, Schenectady, Troy, New York, and Newark. For New England rates were used to Boston, Providence, and Portland. Points used in Central Freight Association Territory were: South Bend, Logansport, Lafayette, Fort Wayne, Indianapolis, Kalamazoo, Grand Rapids, Jackson, Detroit, Toledo, Evansville, Cincinnati, Cleveland, Columbus, Dayton, Bay City, Zanesville, Youngstown, Portsmouth, Pittsburgh, and Buffalo.

TABLE XI

RATIO OF ALL-RAIL AND LAKE-RAIL RATES TO DELIVERED VALUE OF CORN, OATS, AND WHEAT FROM CHICAGO TO POINTS IN NEW ENGLAND, TRUNK LINE, AND CENTRAL FREIGHT ASSOCIATION TERRITORY, WITH COMPARISON OF VOLUME* OF GRAIN SHIPPED FROM CHICAGO TO THE RESPECTIVE TERRITORIES, 1924–25 TO 1932–33

Year	Corn								Oats								Wheat							
	Trunk Line Territory				C.F.A. Territory		New England Territory		Trunk Line Territory				C.F.A. Territory		New England Territory		Trunk Line Territory				C.F.A. Territory		New England Territory	
	All Rail		Lake and Rail†		All Rail		All Rail		All Rail		Lake and Rail†		All Rail		All Rail		All Rail		Lake and Rail†		All Rail		All Rail	
	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments	Ratio to Value	Shipments
1924–25	11.9	100	10.5	100	6.8	100	13.5	100	15.0	100	13.3	100	18.6	100	16.9	100	9.6	100	8.6	100	5.4	100	10.9	100
1925–26	16.0	61	14.2	81	9.2	77	18.0	80	17.8	79	15.9	92	10.4	74	20.0	74	9.2	42	8.0	22	5.1	78	10.5	19
1926–27	16.7	67	15.8	79	9.7	88	18.8	63	16.8	79	16.0	93	9.8	85	18.9	51	10.5	56	9.9	44	5.9	45	11.9	131
1927–28	13.8	132	12.4	91	7.9	149	15.6	88	13.9	99	12.5	93	8.0	154	15.7	61	10.8	59	9.3	23	6.1	96	12.2	36
1928–29	14.3	115	13.3	71	8.2	100	16.1	83	16.2	69	15.0	66	9.4	50	18.2	57	12.3	83	11.0	15	7.0	126	13.9	10
1929–30	15.0	116	13.5	60	8.6	77	16.9	79	16.7	80	15.1	75	9.7	131	18.8	39	12.3	55	10.9	35	7.0	124	13.9	4
1930–31	17.9	58	15.8	69	10.4	63	20.1	48	20.7	54	18.4	52	12.3	106	23.2	19	17.1	24	14.8	38	9.9	108	19.2	4
1931–32	28.8	7	25.8	113	19.8	26	31.8	5	27.7	29	24.0	30	17.0	63	30.6	18	22.3	73	20.1	76	13.8	99	25.6	.....
1932–33	34.2	22	30.5	272	21.7	33	37.4	2	32.6	35	29.0	70	20.5	64	35.8	9	23.1	117	20.1	13	13.8	153	25.7	4

* Indexes of volume shipped, 1924–25 = 100.

† Based on rate to New York City.

The facts of the table are readily summarized. The ratio of rate to value is lowest for wheat and highest for oats and the all-rail ratio is higher than the lake-rail. The ratio of rate to value mounts highest for shipments to New England, the most distant territory, and shipments to this territory, correspondingly, show the greatest reduction. It is worth noting that shipments of oats to New England were better sustained than shipments of either corn or wheat. As the ratio of the lake-rail rate assumes a more favorable relation to the all-rail rate, shipments increase via lake-rail and decline via all-rail.

While other forces, already discussed, were operating to cause a contraction of shipments, it seems fair to conclude that the maintenance of an inflexible rail rate while prices were falling so fast made contraction of shipments inevitable; also that flexibility in the water rate was a factor in causing increased diversion of grain from the all-rail to the lake-rail route.

Apparently the railroads recognized the need for rate reduction as early as September, 1931. At that time ex-lake rates on grain from Buffalo to points in New England taking Boston rates were reduced to meet the basis in effect from Georgian Bay ports.[39] This reduction was not sufficient to sustain the movement of grain to New England.

An emergency rate reduction of 5½ cents a hundredweight on grain to points in Trunk Line Territory was put into effect in July, 1934, by all eastern roads, the reductions to expire June 30, 1935.[40]

[39] The advantage of the Georgian Bay ports over Buffalo on a shipment of wheat from Chicago varied from .01 to .38 of 1 cent a bushel; on corn from 1924 to 1933 the advantage varied from .03 to .53 of 1 cent a bushel.

[40] *Bulletin 607*, Transportation Department, Chicago Board of Trade.

RETAILING UNDER THE N.R.A. II

KENNETH DAMERON*

III. RETAIL-STORE PROBLEMS UNDER N.R.A. CODES

THERE are at least two major retail problems arising from N.R.A. codes. These are: (1) the problem of individual store operation and management resulting from retail codes, and (2) the influence of manufacturer and wholesaler codes on retailing. In a discussion of individual store operation under the codes, it is necessary to consider sales volume, operating costs and mark-up, store policies and practices as conditioned by wage and hour provisions, merchandising and sales promotion, and consumer demand. The second problem calls for a review of the effects of manufacturer and wholesaler codes upon store operation.

Sales volume.—Sales-volume figures are important because of their relation to the increased cost of doing business under the codes and to the ability of retail codes to effectuate re-employment. It is not assumed that sales gains are due to N.R.A.; more generally, they are due to economic conditions under the New Deal.

Sales in dollar volume for 1934 represented a gain of 14 per cent over 1933. All lines of retail trade and all sizes of retail stores showed improvement. Mail-order sales made the best showing, with a gain of 25 per cent; the automotive and hardware showed a gain of 22 per cent each; and gains of 18 per cent each were shown by restaurants, apparel stores, farmers supply and country general stores, and furniture and household lines. The smallest advance, 7 per cent, was reported by the food group. Trade associations in the retail hardware field and individual mail-order house concerns report the greatest gains in agricultural communities.

Prices have gone up and an increase in dollar volume may not

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represent much of an increase in physical volume. However, several groups of stores report increases in the number of transactions in 1934 over 1933.

Operating costs.—Increases in the number employed and in total pay-rolls have brought an increase in operating costs in retail establishments. Estimates submitted by retail trade associations indicate that, on the average, labor costs have increased from 8 per cent to 15 per cent, depending on the size and type of the store. This increase in labor costs has resulted in an average increase in costs of between 2 per cent and 4 per cent on the basis of net sales. Executives of a group of large department stores state that sales increases are large enough to more than offset increases in costs resulting from the Retail Code.[8]

Problem of mark-up.—To meet the increased costs of doing business and to cope with the price readjustments resulting from manufacturer and wholesaler codes some stores have increased their mark-up. Granting the necessity of a higher initial mark-up, it is argued that this mark-up will help the merchant perform better, for it eliminates hesitancy and enables him to take quick and sharp mark-downs. Others have relied upon greater turnover, sales volume, and more attention to expense control. Some stores are giving more attention to the management responsibilities for mark-down and to the development of new departments. Some recent mark-up policies have abandoned the tradition that cheap merchandise should carry a low mark-up, while expensive merchandise must carry a very high mark-up.

Store problems resulting from wage and hour provisions.—The wage and hour provisions of the Retail Code suggest changes in the working time of employees, store hours, and in the handling of employees. The actual effect of the code on working time of employees has not been determined. One trade association reported for its member-stores a decrease of 7 hours and 40 minutes as a result of the code. Working hours in January, 1929, averaged 50 hours and 20 minutes; in 1934, they averaged 42 hours and 40 minutes.

[8] See statement of Philip J. Reilly, director of the Retail Research Association, at annual meeting, May, 1934.

Under the Retail Code it is necessary for stores to elect the work-week and store-hour grouping under which they wish to operate. Complete data on this point are lacking. However, in a survey of members of the National Retail Dry Goods Association it was found that 25 per cent had chosen the 40-hour week, with operating schedules not to exceed 52 hours per week; approximately 55 per cent had selected the 44-hour basis; and the remaining 20 per cent, the 48-hour basis.

With a reduction in the number of hours that most stores remain open for business, maximum sales in minimum time are necessary. Improved selling methods and a renewed interest in the selection of personnel underscore this change. With the shorter work hours, sales training places more emphasis on salesmanship and merchandising and less on rules and regulations. In view of the slight wage differential for juniors and apprentices, one finds a tendency toward a more mature personnel. Stores do not find it profitable to hire juniors and youthful apprentices.

Despite the apparent need for more training, the heads of training report serious problems and obstacles. Buyers and department heads are reluctant to permit educational programs to be carried out on store time, and the use of shifts and staggered hours makes it impossible to handle the training of various units at a single time. The Retail Code is viewed by some as a serious threat to store training.

Many stores enjoy 25 per cent of their daily business before twelve o'clock noon and 75 per cent after twelve o'clock noon. In a similar manner, various days of the week provide greater sales volume. It is, therefore, necessary that the services of the best salespeople be utilized during hours and days when business is best. This prompts many stores to use part-time salespeople during the other periods.

Stores are having varied experiences as the result of the shorter hours. Reports from some stores indicate an increase in the amount of shopping in the early hours of Saturday, and a falling-off in the afternoon. Certain stores have noticed little change in peak selling hours, while others have found it necessary to remain open Saturday evenings. A trend among the salaried class to take

advantage of week-ends for leisure is decreasing Saturday buying. In larger trade areas, the customer buying the more costly items has switched to Monday as his shopping day.

There is the tendency to use mechanical labor-saving devices and equipment to a greater extent than heretofore. This is a direct result of code provisions which lowered the number of hours employees were permitted to work.

Another example of the physical aspect of store operation affected directly by code provisions is inventory practice. Larger stores are now revamping their entire physical inventory systems in order to allow the taking of inventory in accordance with the code labor provisions.[9]

There are other personnel and labor problems resulting from codes. One is found in the stores' inability, under codes, to use their own unskilled employees in making certain types of repair about the store. Another is the difficulty and confusion caused by the necessity of operating certain well-defined departments (both merchandise and service) under other retail codes. In certain departments (busheling, for example) the union labor problem is increased and is leading to closer time studies in setting unit bases for costing and standards for employee performance.

Retail stores are confronted with the unionization of store employees. Unions are making a strong bid especially in the non-selling fields. In large cities and smaller industrial centers retail unions are quite active in organization work. The unions have not as yet gained much headway in any one store, but merchants generally view them as a serious and immediate threat. On the other hand, many progressive merchants are not alarmed and feel that the employee policies of their stores can be readily adjusted to meet this new labor problem.

It is necessary that store executives reorganize their operational planning in order to take better advantage of time. For

[9] This was such a problem for larger stores during the January, 1934, inventory period that special general exemption was granted in order that the stores which had not anticipated the difficulty of taking inventory under the new hour restrictions in the code could complete their January, 1934, inventory and devise a new system later. A similar stay was granted for January, 1935.

example, many sales-promotion plans were organized in detail three or four days in advance of the event; now, it is necessary to plan these same events two or three weeks in advance in order that they will be properly timed and properly executed.

Merchandising and sales promotion.—The loss-limitation provision is of potential significance to the merchandising and sales-promotion activities of the individual store. This is the retailer's selling-below-cost provision, and its intent is to prohibit "loss leader" or "bait" merchandising. This provision does not eliminate price-cutting. It merely raises the base below which prices cannot be cut. Since it is based on the values of the individual store, it does not deny the store an opportunity to pass on to consumers economies in price resulting from greater efficiency. Nevertheless, many stores were forced to make revisions in prices and subsequent revisions in sales-promotion policies.

The Retail Code in its sections on advertising and selling proposes a program to start advertising on an ethical, rational, and common-sense plane.[10] The code supports those retailers who have taken a stand against inaccurate, false, unfounded, hysterical claims and sensational exaggerations. More important is the fact that this code (the retail law of the land) provides an instrument of enforcement.

Where compliance with the advertising and selling provisions of the Retail Code is found, many retailers are confronted with the necessity of devising fresh, attractive advertising promotions, of using appeals that will be accurate and truthful. In terms of the code a store may no longer indulge in cutthroat disparagement of competitors, unbelievable superlatives, or the use of comparative inflated values and similar practices.

As an accompaniment to this more accurate and truthful advertising, retail advertising shows a tendency to become more factual—to use more of the "reason-why" selling approach.

[10] Many retailers who have always conducted their advertising on a high plane feel that the advertising and selling provisions of this code cannot be enforced, and they would prefer to see them scrapped. Other retailers, while recognizing this fact, are anxious to maintain these provisions, add to them, and hope for some measure of compliance.

Floor-display practices have been changed to a greater or less degree because retailers may not display their own stock with other merchandise bought at a bankrupt or receiver's sale unless the bankrupt stock is clearly marked and differentiated from regular stock.

Under the interpretations of the loss-limitation provision merchandise sold at clearance must be advertised, marked, and sold as such, and must be segregated in display from others not included in such special sale.

During the early days of N.R.A., the N.R.A. and the Blue Eagle were subjects of retail advertising copy. This was only natural, as a considerable amount of retail advertising is in the form of news advertising, and retail advertising has continued to adopt many of the new themes suggested by the Recovery program.

With many re-employed people in the lower-income brackets, some sales promotional plans are featuring the popular and lower-priced items. This may indicate but a slight change from previous practice, depending upon the store.

The quality movement is receiving new life because of the truth-in-advertising features of N.R.A. codes. Accordingly, stores are taking a new interest in tested merchandise.

It has been asserted that there is a significant gain in the relative importance of branded goods in retail merchandising. It is stated that the consumer who is now required to pay a slightly higher price for an item of merchandise is expressing a strong preference for goods with an established reputation for quality. The situation created by the N.R.A. has greatly narrowed the competitive advantage of sub-standard quality goods over goods of known repute. This reasoning is perhaps subject to limitation by commodities and store types because many of the larger stores have renewed their interest in private store brands.

Leisure—a new frontier in consumer demand.—With the advent of the shorter work week, household consumers have more free time—more leisure. All of the pursuits resulting from leisure have a merchandising significance. Aggressive retailers are alert

to this new frontier of consumer demand. Retail sales promotions have in recent months been built around the theme of leisure. The term "leisure" is used in store advertisement headlines, and commodities and services are presented in such a manner as to emphasize the use of leisure.

Consumer demand.—It is possible that one of the permanent results of N.R.A. will be the organization of consumers. Some retailers have expressed fear at these consumer movements. Others have met it by taking a greater and more effective interest in tested merchandise, truth in advertising, and in the development of a more intelligent handling of consumer-retailer problems. Many retailers are seizing this opportunity to assist in the education of consumers, and, in this manner, to minimize such abuses as the return-goods privilege and other aspects of the "consumer-is-always-right" policy.

Nevertheless, large groups of consumers object to price increases. They are not, in all instances, blaming N.R.A.—but they feel that too many people are trying to obtain profits through the channels of distribution. As a result, many consumer co-operative-buying societies were organized in 1934.

MANUFACTURER AND WHOLESALER CODES CAUSE CHANGES IN RETAILING

Retailers seem more concerned over manufacturer and wholesaler codes than over the Retail Code. It is conservatively estimated that store managers may need some knowledge of one hundred codes; advertising managers, of fifty codes; comptrollers, buyers, and merchandise managers, of over two hundred codes.

The amount of routine required to return goods alone is indicated in Table IX. Other influences of manufacturer codes in retailing are described below.

Before a single manufacturer code went into public hearing, the National Retail Dry Goods Association endeavored to secure conferences with code committees for the purpose of working out trade practices which would be mutually satisfactory. Most of the conferences failed, and retail trade groups protested provisions in several hundred codes. The trade-practice provisions

TABLE IX

A Summary of Conditions under Which Merchandise May be Returned under Manufacturing Codes*

Returns Are Permitted in the Following Codes	If Returned Within	If Not Worn	After Notice in Writing	If Defective in Manufacture	If Delayed in Delivery	Because of Errors in Shipment	Nonconformance with Specifications	Other Conditions
Artificial Flower and Feather	3 days	.....	.....	.....	.....	.....	.....	.....
Beauty and Barber Shop Mech. Equipment	.....	.....	×	×	.....	.....	.....	5 per cent purchase price handling charge
Bedding Manufacturing	6 mo.	.....	.....	×	.....	.....	.....	.....
Blouse and Skirt Mfg.	5 days	.....	×	×	×	×	×	.....
Boot and Shoe Mfg.	.....	.....	.....	.....	.....	.....	.....	Consent of Code Authority
Candle Mfg. and Beeswax, Bleachers and Refiners	10 days	.....	.....	.....	.....	.....	.....	.....
Carpet and Rug Mfg.	.....	.....	.....	×	.....	×	×	Consent of Code Authority
Corset and Brassiere	10 days	.....	×	×	×	×	.....	Garment worn less than 3 months damaged in wearing due to faulty material returned for repair; no charge if laundered
Dress Manufacturing	5 days	.....	×	×	×	×	.....	Breach of contract
Earthenware Mfg.	.....	.....	.....	.....	.....	.....	.....	Code Authority
Envelope Industry	.....	.....	.....	.....	.....	.....	×	.....
Handkerchief Industry	5 days	.....	.....	×	.....	.....	×	No return for exchange
Hosiery	.....	.....	.....	×	.....	.....	.....	.....
Ladies' Handbag	7 days	.....	.....	.....	.....	.....	×	.....
Leather and Woolen Knit Glove	5 days	×	.....	×	.....	.....	.....	Free of wear and soil
Perfume, Cosmetics, and Other Toilet Preparations	.....	.....	×	.....	.....	.....	.....	Handling charges paid
Knitted Outerwear	30 days	×	.....	×	.....	.....	.....	Code Authority exceptions
Millinery Industry	5 days	.....	.....	.....	.....	.....	×	.....
Paint, Varnish, and Lacquer	.....	.....	×	×	.....	.....	.....	Freight charges prepaid
Porcelain Breakfast Furniture Assembling	15 days	.....	.....	×	.....	.....	×	After hearing by Code Authority
Precious Jewelry Prod.	.....	.....	.....	×	.....	.....	×	.....
Pyrotechnic Mfg.	.....	.....	.....	.....	.....	.....	.....	Consent of Code Authority
Rainwear Div. of Rubber Mfg.	5 days	.....	.....	.....	.....	.....	.....	.....
Saw and Steel Products	.....	.....	.....	.....	.....	.....	.....	No credit if obsolete stock. Current stock freight prepaid
Silk Textile	10 days	.....	×	.....	.....	.....	.....	No allowance if cut
Silverware Manufacturing	.....	.....	.....	.....	.....	.....	.....	Cost of transportation and handling charges
Smoking Pipe	.....	.....	.....	×	.....	.....	.....	If not less than $1.00
Umbrella Manufacturing	.....	.....	.....	×	.....	×	.....	.....

* Taken from *NRDGA Bulletin*, May, 1934, p. 37.

TABLE IX—*Continued*

Returns Are Permitted in the Following Codes	If Returned Within	If Not Worn	After Notice in Writing	If Defective in Manufacture	If Delayed in Delivery	Because of Errors in Shipment	Nonconformance with Specifications	Other Conditions
Upholstery and Decorating Fabrics	.....	.....	.....	.....	.....	.....	.....	Not less than 3 yards, 10 per cent service and depreciation charge
Upholstery and Drapery Textile Industry	.....	.....	.....	.....	.....	.....	×	.....
Wood Cased Lead Pencil	.....	.....	.....	×	.....	×	.....	10 per cent original net value and transportation both ways, reconditioning charge

in manufacturer and wholesaler codes protested by retailers included the following:

1. Quantity and volume discounts
2. Advance price-exchange information
3. Resale price maintenance
4. Unfair cost basis
5. Price-fixing
6. Advertising allowances
7. Demonstrating allowances
8. Shipping arrangements
9. Discriminatory classification of customers
10. Returns restrictions
11. Consignment selling
12. Standard contract forms
13. Samples
14. Contract limitations
15. Price guaranties
16. Product guaranties
17. Contract cancellations
18. Product limitation
19. Combination price units
20. Group-buying methods
21. Selling to consumers
22. Conflicts of codes
23. Vertical code control
24. Elimination of quantity and volume discounts
25. Price-fixing of goods sold at retail

26. Elimination of advertising allowances
27. Elimination of demonstrators
28. Altered shipping arrangements to conceal price rises
29. Discriminatory classification of retailers
30. Restrictions on returns
31. Elimination of consignment selling
32. Elimination of cut-and-trim basis of sale
33. Uniform discounts and terms of sale
34. Wholesalers price differential

Taken as a group, these provisions are likely to conceal price increase, to which retailers are opposed. It may be that one reason for the opposition is that retailers feel themselves in a less advantageous position under the new "rules." It is more difficult to bargain for concessions when the principal types of concessions are barred. In a broader sense, an effect of many of these new provisions is to set up a series of price rigidities which tend to retard recovery.

Manufacturers bolster their point of view with the statement that "unless the manufacturer is protected from destructive buying practices, unless he gains some immunity from being caught in the cross-fire of bitter retail competition, he will be deprived of an opportunity of giving gainful employment to many."

Buying policies and practices.—Provisions of manufacturer codes limiting or reducing discounts have been of great concern, especially to large-scale retailers. In many instances discounts have been reduced with no accompanying reduction in the list price, the effect being to raise the net price to the retailer and thus, from the standpoint of the buyer, to eliminate the usual cushion which the so-called "discount" allowed him. This has tended to disrupt customary price lines. It is difficult for a store to change such prices, arbitrarily and immediately, and reclass the merchandise. To counteract this, some manufacturers are now preserving the price line but reducing the quality.

It is claimed by retailers that open price provisions, with the simultaneous filing of prices by all members of an industry, result in unreasonable and uniform price increases. This, of course, limits the bargaining advantage of the large-scale retailer, as do the prohibitions of secret rebates.

Other provisions in manufacturer codes bar entertainment of buyers, payment of retailers' traveling expenses, and similar practices. Group showings are made more difficult or eliminated in some codes; and, in others, pooling of small orders is banned. Commission buyers have been eliminated by one code.

Large retailers are apprehensive of the price-differential provision of the General Wholesale or Distributing Trades Code.[11] They are fearful that it will restrict their quantity buying. In addition, they point out they have assumed many of the wholesalers' functions and that a functional discount, such as the price differential, discriminates against them. Many small- and medium-scale retailers, however, favor the wholesalers differential because it tends to preserve the manufacturer-wholesaler-retailer channel of distribution and thus insure them of adequate merchandise resources.

It is contended that some manufacturers are willing to enter into relations with retailers which are violations of their code. This creates a situation of "bootleg distribution" and makes compliance discriminatory.

It is necessary to check more closely for defective merchandise, since it can be refused, even though returns are more difficult. To make this checking effective, some stores are developing laboratories of their own or utilizing the services of testing laboratories. There is also the necessity for increased speed in filing claims for readjustment.

Label provisions.—The label provision in the Retail Code has altered to a considerable extent former merchandising customs. Under the terms of this provision, retailers are prohibited from buying merchandise from manufacturers governed by a manufacturer code, which provides that Blue Eagle labels shall be affixed to such merchandise, *if* the manufacturer has not complied with this provision and labels are not affixed. Many of the larger stores have had to install new systems and provide additional personnel to check incoming merchandise to see that Blue Eagle

[11] N.R.A. reopened the price differential question on March 12, 1935. This hearing uncovered nothing which had not been presented at the public hearing on the Wholesale Code, November, 1933.

labels are properly affixed. This provision is said to be of great importance in securing compliance with manufacturer codes, especially in the garment industries.

Advertising.—Many provisions in manufacturer codes protect the retailer against unfair competition. All persons in a given market situation tend to suffer from such things as mis-branding, false labeling, and mis-information concerning seconds, sub-standard merchandise, etc. Honesty in selling must be a vertical concept.

Some manufacturer codes provisions strike at the very center of the advertising allowance problem. Some would do away with them completely; others would modify their use.

Almost everyone recognizes the legitimate and economic uses of the advertising allowance. Although some codes eliminate advertising allowances completely, most codes prescribe rules for their use or modify their use. Of the first 400 codes approved, 63 have special trade-practice provisions governing the use of advertising allowances; 20 prohibit where secret or discriminatory in nature; 18 prohibit completely; 14 permit use within specified limits;[12] 1 prevents acceptance by retailers; others are miscellaneous in character. Codes barring advertising allowances cover a wide range of products: matches, artificial flowers, toys, lime, retail lumber, small arms and ammunition, ready-made furniture, and others. To get the full significance of these one would have to know to what extent they had been in use in the trade.

Among the miscellaneous provisions, one code bars the acceptance of contributions from manufacturers, wholesalers, etc. Another prohibits the taking of advertising space in payment for merchandise.

[12] Among the codes setting limits on the use of advertising allowances: Corsets and Brassieres: "No person shall contribute more than 50 per cent of the net cost of the space—nor contribute to cost of advertising articles for retail sale at less than $2.00 and $1.00 (depending on article)—nor shall he contribute to the advertising of the retailers' brand"; Hosiery: "Manufacturers may engage in co-operative advertising but 50 per cent is the limit"; Perfume, Cosmetics: "No member of the industry shall make payment for advertising, where such payment is made for the purpose of paying for the services of a special demonstrator or the payment of p.m.'s or other gratuities to the dealer's employees."

To the extent that allowances from manufacturers are curtailed, advertising appropriations may be increased. N.R.A. policy with respect to advertising allowances was modified early in 1935. This modification does not outlaw existing provisions, but it provides a method of handling allowances in subsequent codes or code amendments and suggests indirectly a readjustment procedure for codes containing allowance provisions.

The N.R.A. modification is built around the separation of advertising allowances and price reductions. In other words, that which is actually a price reduction must appear in prices and that which is payment for advertising or promotion services must appear as such with definite description of the service for which it is given.[13]

Advertising initiative on the part of stores has been dampened to some extent by price provisions in manufacturer codes. Where filing of prices and advance notice of change in price are required, there is some check on the form of price advertising utilized by retail stores. In a different manner, where the advertising allowance has been charged to the price of the goods, it may modify the price appeal used in the advertisement.

[13] It is N.R.A. policy that an industry desiring to regulate advertising allowances should not be permitted to do so by general prohibitions, by restrictions on the basis of products or types of distributors, or otherwise than in accordance with the following:

"1. That no member of an industry or trade shall designate as an 'advertising allowance,' 'promotion allowance' or similar term, any price reduction, discount, bonus, rebate, or other form of price allowance or concession, or any consideration for advertising or promotion services offered or given by him to any customer.

"2. That no member of an industry or trade shall offer or give any consideration for advertising or promotion services to any customer except for definite and specific advertising or promotion services.

"3. Agreements to purchase advertising services from customers shall be made in written contracts separate from sales contracts.

"4. Such contracts shall specifically and completely set out the promotion services to be performed, together with the precise consideration to be paid therefor, the method of determining performance, and all other terms and conditions relating thereto.

"5. Some arrangement for publicity may be made, where effective machinery therefor can be devised. In considering any arrangement for publicity, care should be taken to avoid machinery so cumbersome that its cost will outweigh benefits to be gained."

IV. CODE ADMINISTRATION PROBLEMS

As soon as the Retail Code was approved, the trade association sponsoring this code set about to organize for administrative purposes. The Code Authority is composed of from one to three representatives from each major division of the retail trade. Each division, regardless of representation, has but one vote.

Approximately 783 local retail code authorities have been organized in principal retail trade areas. These are organized as a part of the plan of industrial self-government for the retail trade. Of the local retail code authorities organized, 500 cover practically all towns in the country over 25,000 population, and about 200 are organized in cities of smaller population. On the basis of population, the authority and activities of the local retail code authorities cover more than 90 per cent of the country.

The activities of the local retail code authorities are co-ordinated and centered into the activities of the National Retail Code Authority. The National Retail Code Authority is, in a sense, a liaison officer between retailers and N.R.A. It is its broad function to investigate the operation of the Retail Code, to make recommendations to the Administrator, and to function as the central directive force of the Retail Code. It is the function of local retail code authorities to handle all problems at their source, and through investigations, education, explanation and similar measures, to insure compliance and enforcement. They may also function as fact-finding bodies.

The organization structure of the Retail Code also calls for a committee to investigate the company-scrip situation[14] and a National Retail Trade Economics Board.[15] President Roosevelt

[14] The Committee to investigate company scrip was appointed by the Administrator on March 16, 1934, and is composed of Dr. Charles Fowler, City College of New York; Mr. Daniel Bloomfield, of the Boston Retail Trade Board; and Professor Henry Post Dutton, of Northwestern University.

[15] The National Retail Trade Economics Board was appointed by the Administrator on March 26, 1934, and is composed of John Burke of B. Altman Co., New York, chairman; Dr. Kenneth Dameron, Ohio State University, secretary and director of research; A. D. Whiteside, president of Dun and Bradstreet, New York; Dr. Paul H. Nystrom, Columbia University; and Thomas A. Howell, of Howell Bros., Richmond, Virginia.

has also appointed others[16] to serve with the Administrator for National Recovery on the National Retail Code Authority.

The Retail Code also provides that the National Retail Code Authority shall, subject to the approval of the Administrator, appoint annually a Regional Advisory Committee consisting of one member appointed from and representing each geographical section of the country as established by Federal Reserve districts.

It is significant that N.R.A. has not utilized or fully recognized the organization structure. The Company Scrip Committee was successful in resisting these efforts and finally made a report in November, 1934.[17]

In general the recommendations of this committee were indorsed by the N.R.A. Advisory Council. However, on January 5, 1935, the N.R.A. stayed the company-scrip provisions until May 1, 1935.

Although N.R.A. appointed Administration members to serve on the National Retail Code Authority, none of them assumed any responsibility. Members of the Deputy's staff attended National Retail Code Authority meetings and in a sense functioned as government members.

This refusal to work with the organization structure of the Retail Code makes it clear that both N.R.A. and the National

[16] Mrs. Mary H. Rumsey, of the Consumers Advisory Board; Dr. Leo Wolman, of the Labor Advisory Board; and Louis E. Kirstein, of the Industrial Advisory Board. Mrs. Rumsey, who died in December, 1934, will probably be succeeded by Mrs. Emily Newell Blair, the new chairman of the Consumers Advisory Board.

[17] In its report, the Scrip Committee submitted two groups of recommendations. The first group, which relates specifically to Article IX, Section 4, of the Retail Code, and was approved on October 21, 1933, would eliminate that article and substitute the following provisions:

"No company store or retail store shall collect by offset in the form of scrip, book credit or otherwise, against the wages of any person other than its own employees engaged exclusively in the retail trade, an amount of merchandise sold by said store in excess of 25 per cent of such pay earned in any pay period.

"No store shall purchase or receive or accept for cash or consideration in trade or in payment of indebtedness any scrip at less than its par or face value."

The Committee's second group of recommendations is "designed to carry out the spirit of the first group," which would apply only to the retail trade, and to "indicate some considerations involved in correcting some of the evils which now exist in connection with the company store and scrip system."

Retail Code Authority have neglected their duty in the administration of the Retail Code.

Exceptions and interpretations.—Although the code gives the Administrator the sole power to grant or refuse exceptions to the code provisions, as a practical matter these requests for exceptions may be referred to both the local code authority and the National Code Authority. The Administrator would consider carefully the recommendations of these groups. Any retailer who feels that he suffers an unusual or undue hardship because of the operation of the code provisions may file a petition with the local retail code authority, such petition setting forth all of the facts as to pay-roll, expense structure, wages during depression, wages prior to P.R.A. and other pertinent data. The local code authority considers the request for exceptions, makes necessary recommendations, submits the brief to the National Retail Code Authority, who reviews it, and in turn submits the case with its recommendations to the Administrator.

ARTICLE X, Section 5, of the Retail Code provides that "the Administrator may from time to time, after consultation with the National Retail Code Authority, issue such administrative interpretations of the various provisions of this Code as are necessary to effectuate its purposes, and such interpretations shall become operative as a part of the Code, unless the Administrator shall otherwise specify."

The local code authorities are expected to make explanations and to apply interpretations that are forwarded from the National Retail Code Authority, but it is not their proper function to make new interpretations.

Code overlapping.[18]—A number of problems attend the administration of the Retail Code. Some of these problems are inherent in the coding of retail distribution; others arise from lack of understanding on the part of N.R.A. and from failure to recognize the importance of distribution in the recovery program.

A fundamental problem is difficulty of enforcement. Many local code authorities report that they have had no labor complaints; whereas employees in these same areas claim that they

[18] See also "Voice of Distribution Weak and Ineffective," by Kenneth Dameron, in *Retailing*, Vol. VII, No. 1 (January, 1933).

are afraid to make complaints for fear of losing their positions. Although progress has been made in the improvement of advertising and selling practices, there are numerous trade-practice violations which are escaping prosecution. In many communities consumers are not "Blue Eagle" conscious, and the fact that a retailer is not complying with the code makes little difference to them as long as the price seems right. Their passive attitude may be due to N.R.A.'s ill-timed "Buy Now" campaign, or it may be due to failure of N.R.A. to organize and co-ordinate properly the interests of household consumers.

Other problems[19] arise through code overlapping, lack of co-ordination, and simplification and assessments—too many assessments and failure to collect assessments.[20]

Retail trade channels are not air-tight compartments. There are but few single-line stores today, as most stores handle a variety of merchandise not related to their principal line. (One observer has stated that the average department store is governed by twenty-five codes and that a hardware store is governed by ten or twelve codes.)

What causes code overlapping.—

1. The development of retail codes following commodity lines.

2. The fact that retailers and other distributors seek to sell to consumers other than household consumers.

3. Associations sponsoring codes overlap in their spheres of activity.

4. An overlapping inherent in the small production and custom trades operating in the twilight zone of production and distribution.

5. The development of vertical codes in industries other than the more or less basic ones.

6. A failure of the retail trades to recognize their common problems. This failure may result in misplaced emphasis or an

[19] See also "Code Overlapping in the Distributing Trades" and "Co-ordination of Local Retail Code Administration," prepared by the writer for the Conference of Code Authorities held in Washington, March 5–7, 1934.

[20] The Retail Code has been amended to make mandatory on members of the trade contributions for administering the code.

over-simplification which magnifies a single trade problem at the expense of others.

Suggested solutions for code overlapping.—

1. Development of master or basic codes on functional, rather than commodity, basis.
2. A restriction of vertical codes.
3. A re-examination of selling provisions in production codes.
4. The development of co-ordinating committees.
5. A more or less arbitrary limitation of code jurisdiction.
6. A general program of code simplification.

Co-ordination of local retail code authorities.—There are several distinctly different retail codes in operation. These call for separate code authorities and separate local administration. In order to administer and enforce retail codes effectively, it is necessary that local machinery be set up. Is it reasonably possible that these retail trades could independently set up local code administration machinery which would be effective?

Consider, further, the question of someone wishing to get in touch with a local code authority on a retail problem. If there are eight or nine different offices in a given locality, it is difficult for even a well-informed individual to know exactly where to go. Even under the best of conditions, to have to consult with various organizations taxes one's patience and develops a reaction of buck-passing or evasion. This argues in favor of some centralization and co-ordination of local retail code authority activities.

The technical details of various trades are, of course, different; but when it comes to the administration of fundamental code laws, the retail trades have much in common. There is no reason why the administration locally could not be co-ordinated and centralized. It is far better to have a staff handling all retail problems than it is to have the various organizations dealing with the same general problem and separated only by a none too clearly defined commodity line. An organization so conceived tends to become more efficient, and, as a result of handling a variety of cases, develops a greater skill and a greater understanding of the problem.

It is doubtful whether individual trades can finance and sup-

port local code authorities. The assessment plans thus far approved are, with some exceptions, equitable; but it is doubtful, even under the various schemes of assessing, whether or not enough funds could be raised to support the local administration of a dozen different retail codes.

At the present time each retail group preserves its distinct code authority organization. The combined number of paid and unpaid personnel of these code authorities amounts to something over twenty-eight thousand persons. By proper combination and co-ordination the same job could be done with increased efficiency by some five thousand workers.

The application and interpretation of retail codes presents many situations where the centralization of local activities is wellnigh essential. Trade practice provisions in particular demand joint analyses.

The retail codes call for the development of local self-government, local organization—and at the same time they demand freedom from complicated machinery. Local retail code authorities should work toward a simplified unit of administration. This means co-ordination.

As early as September, 1933, what was then the Retail and Wholesale Section of N.R.A. made recommendation to the Administration for a Distribution Division which, if properly conceived, would have tended to eliminate some of these problems at the outset. Again on February 16, 1934, the deputy in charge of distribution called a meeting of all Retail Code Authorities and proposed measures to (1) eliminate multiple assessments; (2) co-ordinate local retail code authorities; (3) integrate and simplify distribution under N.R.A. These proposals were made again in March and April (1934) but without results. Finally, in January, 1935, an order was issued relieving wholesalers and retailers from paying multiple assessments. The results of this order may be modified to some degree with the granting of numerous exceptions and joint failure on the part of N.R.A. and the Code Authorities to develop a machinery which will function effectively under this order.

It was pointed out that where a wholesaler or retailer is also engaged in some other line of business, such as manufacturing, this order will not prevent collection of assessment on the other business by the Code Authority for that business.

In a very few cases, notably ice and solid fuel, the right to collect assessment on a secondary line of business already has been granted. The new orders, it was announced, will have no retroactive effect on these industries, which may continue to collect as they have in the past. The products under these codes are not ordinarily sold by general wholesalers and retailers.

The order also allows Code Authorities, subject to N.R.A. approval, to enter into agreements with each other in setting up plans for collecting and allocating assessments.

Assessments.—Assessments are vital to the success of retailing under N.R.A. codes. Without adequate financing, the codes cannot be put into operation and enforced. At the same time, the assessment must not be burdensome, and it should be easy to fix and collect. At the present time the following methods of assessment prevail in retail codes:

1. *General Retail Code:*
   $1.00 per employee, of which 75 cents goes to the local retail code authority and 25 cents to the National Retail Code Authority.
   As revised January 11, 1935, the assessment is 62 cents per employee, with 7 cents per employee going to the National Retail Code Authority. This revision in assessment is in harmony with the fiscal period involved and the actual cost of administration.
2. *Retail Drug:*
   $1.00 per employee, which goes to the local code authority; and $1.00 per store, which goes to the National Code Authority.
   As revised, each retail drug establishment in continental United States would contribute $1.00 per employee for the six-months' budgetary period. Of the $1.00 collected, 50 cents would go to the National Code Authority for its own expenses, and the remaining 50 cents would be allocated by the National Code Authority to the several local and metropolitan code authorities.
3. *Retail Food and Grocery:*
   $1.00 per employee, of which 25 cents goes to the National Code Authority; and also $1.00 per store, which goes to the National Authority.

4. *Retail Jewelry:*
   $1.00 per employee, which goes to the National Code Authority. The local code authorities may assess up to the maximum of $2.00 per employee.
   As revised, 50 cents per person engaged in the trade, to be paid by the members of the trade. For the purpose of ascertaining the basis of this assessment, members of the retail jewelry trade are to determine the average number of persons employed in their respective establishments during the calendar year 1934; this average is to be arrived at by adding together the full-time and part-time workers (including employer and employee) on the first day of each month of the year and dividing the total by 12. Part-time employees are described as those working 60 per cent of the work week.
5. *Retail Lumber:*
   One-half of 1 per cent, based upon sales. By "sales" is meant gross sales.
6. *Retail Motor Vehicle:*
   $4.00, which is collected on the *Official Guide* published by the National Auto Dealers Association; and $15.00, which is assessed by the local code authority.
   A flat charge of $4.00 is due and payable on November 1, 1934, from each member of the Motor Vehicle Retailing Trade, covering the eleven-months' budgetary period beginning July 14, 1934, and ending June 16, 1935. This assessment charge will be collected by the Regional Code Authority from all members under the jurisdiction of the respective Regional Authorities and reimbursement made to the National Code Authority.
7. *Retail Builders' Supplies:*
   One-half of 1 per cent, based on sales.
8. *Retail Farm Equipment:*
   $10.00 on first $25,000 volume or any part of same, in retail sales volume, 1933, with an additional $5.00 for each additional $25,000.
   The Central Code Authority for the retail farm equipment trade has made application to the National Industrial Recovery Board for approval of a $10,712.50 budget to cover code administration expenses in the Eastern Division of the trade during the year ending December 31, 1935. The suggested basis of contribution is one-tenth of 1 per cent of the total gross retail sales of farm equipment.
9. *Optical Retail Trade:*
   $3.00 per employee for the budgetary period.
10. *Retail Oil Burners:*
    The manufacturer adds $1.00 to housekeeping burners, and 10 cents to a range and cooking burners. The manufacturer also pays a similar sum. In other words, the assessment is $2.00 on housekeeping burners, and 20 cents on range or cooking burners.

11. *Retail Custom Millinery Trade:*
To be financed through the sales of labels to members of the trade at the rate of 1½ cents each.

12. *Retail Rubber Tire and Battery Trade:*
$2.00 per each retail outlet; 25 cents additional to be added for each employer in each retail trade. (The original basis of assessment called for $1.00 on the first $1,000 or less of the gross replacement sale of products and services of the trade with further assessment of 75 cents on each additional $1,000 or less.

Where assessments are based on number of employees, Table X shows the maximum assessment possibilities. The Retail Code, Retail Drug Code, Retail Food and Grocery Code, and Retail Jewelry Code use the number of employees as the assessment base. Most of the large volume retailers operate in these trades.

There are approximately 766,000 stores (1929 census) and 3,061,000 employees governed by the Retail Code. Of these, 355,850 stores and 740,700 employees are in towns of under 10,000 population; 79,550 stores with 335,800 employees in cities with a population of 10,000–30,000; and 330,600 stores with 1,984,500 employees in all cities of more than 30,000 population. Approximately one-third of the stores in this category are in cities of more than 1,000,000. The figures in Table X indicate the impossibility of the various retail codes setting up effective local machinery, and suggest that only in the largest cities could local code authorities function by kind of trade.

V. RECENT ADMINISTRATION PROBLEMS

Policy within N.R.A. had to be changed. For a time at least three N.R.A. divisions were handling retail codes. No inter-N.R.A. machinery for co-ordination of these divisional activities seemed possible. Over one year after the proposal for a distribution division, preliminary steps were taken to get all retail codes under a single divisional supervision. Had this been done early in the code-making days, many of the problems just reviewed could have been avoided.

The policy within N.R.A. was further changed upon the resignation of N.R.A. Administrator Johnson and the appointment of the National Industrial Recovery Board to administer the Act.

TABLE X

NUMBER OF STORES AND EMPLOYEES BY KIND OF TRADE AND POPULATION GROUPING*

KIND OF BUSINESS	ALL PLACES 1,000,000 AND OVER		ALL PLACES 500,000 AND UNDER 1,000,000		ALL PLACES 250,000 AND UNDER 500,000		ALL PLACES 100,000 AND UNDER 250,000		ALL PLACES 90,000 AND UNDER 100,000		POPULATION 10,000–90,000 (677 CITIES)		ALL PLACES UNDER 10,000	
	Stores	Employees	Stores	Employees	Stores	Employees	Stores	Employees	Stores	Employees	Stores	Employees	Stores	Employees
Drug stores, with and without soda fountains	2,292	31,442	3,340	12,764	5,274	22,033	4,417	17,627	6,279	24,793	5,800	23,600	23,850	64,400
Food and grocery stores, including all general stores, and one-half of the general-stores employees	83,755	125,237	35,061	55,825	42,182	75,361	40,727	68,775	59,813	107,912	55,000	129,000	269,500	428,000
Jewelry stores	3,127	9,317	1,354	5,170	1,601	5,934	1,619	5,320	2,454	7,523	2,650	7,000	7,200	12,000
Lumber and building-material dealers	1,130	12,507	549	6,467	1,129	11,036	1,237	12,465	1,851	19,832	2,600	21,000	17,600	67,500
Motor-vehicle dealers, new and used	2,031	32,398	1,075	19,695	1,700	32,725	2,062	31,832	4,112	51,118	6,500	60,200	27,500	154,300
Filling stations (gas and oil; tires and accessories; other merchandise)	6,470	12,602	3,207	7,199	6,458	14,182	6,513	12,452	9,733	19,351	11,000	24,700	78,500	125,300
Oil-burner dealers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,200	11,500	4,900	18,000
Farm-equipment dealers, including 4½ per cent of motor vehicles and farm implements	17	93	19	156	53	249	101	475	267	1,725	750	4,200	12,440	35,800

* Source: Department of Commerce, Bureau of the Census.

At the outset it was thought that this Board would take steps to eliminate price-fixing and provisions calling for restriction of output. However, to date, one is unable to discover any change in policy with regard to these matters. The Board seems to be groping more or less blindly, and those in Washington state that affairs are in a more hectic state than previously.[21]

More recently a committee has been set up to study code coordination and costs of code administration. In this mission they are carrying out proposals made by the writer at the March, 1934, conferences of code authorities and business men. The recognition of this problem, although tardy, may prove most helpful.

The retail trade generally has not committed itself concerning N.R.A. and its future. The various attitudes expressed by retailers range from complete abolition of N.R.A. to a modification which would eliminate trade practices and greatly modify the labor provisions. Others express dissatisfaction with the lack of enforcement.

Retailers generally have the feeling that N.R.A. delays, which were at first charged to the "emergency" character of the movement, are ridiculous and costly—ridiculous, because most of them are uncalled for; and costly because, in merchandising, time is an important factor in successful operation. They are also irritated by the high turnover of N.R.A. personnel, which often means that an N.R.A. executive is called upon to make a decision on a problem with which he is completely unfamiliar. One observer states that N.R.A. personnel is not conversant with problems of distribution.[22] Small retailers have protested the appointment of retail executives of large-scale retail organizations to positions of control within N.R.A. Numerous criticisms indicate that retailing is suffering because of the absence of a simplified master retail code.

Searching beneath the exterior of the retailer's criticism of

[21] At present (March 21, 1935) several members of this board, including the chairman, have announced their intention of resigning.

[22] "A Friendly Criticism of Distribution under the N.R.A.," by R. S. Alexander, in *American Marketing Journal*, October, 1934.

N.R.A. and the codes, one gains the impression that the majority of retailers, representing an adequate cross-section of the industry, want the code. They would also advocate the retention of N.R.A. in substantially its present form. One must take a common-sense view of this problem. Complete enforcement is perhaps impossible of attainment. During the code-making days many leaders of retailing spoke in terms of 50 per cent enforcement.

The retail codes, through their authorities, provide a unit of self-government long sought in the retail field. Most retailers are of the opinion that trade practices have improved. There has been some re-employment in retailing, although, as was expected, some stores have been able to outwit re-employment in code terms and others have suffered because of their inability to make the adjustment. Retailers are dissatisfied with the interaction of manufacturer and wholesaler codes. But the gains under the retail codes more than offset the difficulties.

THE FEDERAL COURTS AND ORGANIZED LABOR—*Continued*

JAY FINLEY CHRIST*

The right to trial by jury in contempt cases.—It has been pointed out elsewhere in this series that, so far as it concerned *limitations* upon the powers of the federal courts to issue injunctions in labor cases, the Clayton Act was of practically no effect. In one respect, however, the act seems to have accomplished a considerable measure of what its framers ostensibly attempted. Among the provisions of the act were the following:

SEC. 21. That any person who shall wilfully disobey any lawful writ, process, order, rule, decree, or command of any District Court of the United States or any court of the District of Columbia, by doing any act or thing therein, or thereby forbidden to be done by him, if the act or thing so done by him be of such character as to constitute also a criminal offense under any statute of the United States or under the laws of any state in which the act was committed, shall be proceeded against for his said contempt as hereinafter provided.

SEC. 22. . . . . [after provision for trial upon service, etc.]. In all cases within the purview of this act such trial may be by the court, or, upon demand of the accused, by a jury; . . . . If the accused be found guilty, judgment shall be entered accordingly, prescribing the punishment, either by fine or imprisonment, or both, in the discretion of the court.

SEC. 24. That nothing (in the above section) shall be construed to relate to contempts committed in the presence of the court, or so near thereto as to obstruct the administration of justice, nor to contempts committed in disobedience of any lawful writ, process, order, rule, decree, or command entered in any suit or action brought or prosecuted in the name of, or on behalf of, the United States, but the same, and all other cases of contempt not specifically embraced within Section 21 of this act, may be punished in conformity to the usages at law and in equity now prevailing.

Several matters are somewhat easily apparent, from a mere casual reading of these sections. For one thing, the provision for jury trial in contempt cases does not apply to cases of contempt arising from violation of orders issued in any suit brought by the

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United States.[345] For another thing, the provision for jury trial does not apply when the acts done are not violations of criminal statutes of the United States or of the state wherein the acts were done. This question arose in the Taliaferro Case, in which jury trial was denied for this reason. It arose also, in two other cases,[346] in both of which the contempt consisted of inducement of employees to violate or disregard their contracts of employment. It was held in each case that, since inducement of breach of contract is not a criminal offense, the provisions for jury trial were not applicable. For a third thing, the provision does not apply to contempt in violation of orders in federal receivership cases, since such cases are not among the kinds of cases cited in the act.[347]

Another matter is not so clear. In *Armstrong et al.* v. *U.S.*[348] it was held that Section 22 of the Clayton Act did not apply in labor cases when the contemnors were not (at the times of the contemptuous acts) employees against whom the strike was called. The basis for this is somewhat obscure; but it seems to have been overruled by the Supreme Court in a later case, which is discussed in a later connection.[349]

Finally, there remain the questions, whether the act applies to any case of contempt which does not involve violation of the interstate commerce laws of the United States, whether or not the jury-trial provision is mandatory as to the class of cases to which it is applicable, and whether or not these sections of the act are repugnant to the Constitution. Only three reported cases deal with any of these questions. The first one was *Canoe Creek Coal Co.* v. *Christinson et al.*[350] The reports do not disclose the precise nature of the acts done in violation of an injunction granted upon petition of a private party. In one aspect of the discussion, the acts seem to have constituted conspiracy to violate the anti-trust

[345] This was affirmed by the Circuit Court of Appeals in *Forrest et al.* v. *U.S.*, (1922) 277 Fed. 873, Case No. 136.

[346] *Patton* v. *U.S.*, (1923) 288 Fed. 812, Case No. 168, and *Gravely* v. *U.S.*, (1923), 288 Fed. 837, Case No. 169.

[347] *McGibbony* v. *Lancaster et al.*, (1923) 286 Fed. 129, Case No. 163.

[348] (1927) 18 F. (2d) 371, Case No. 207.

[349] *Michaelson et al.* v. *U.S.*, (1924) 266 U.S. 42.

[350] (1922) 281 Fed. 559, Case No. 140.

laws, while in another aspect, they seem not to have been so. Defendants' demand for jury trial upon the issues of contempt were denied by the trial court, on the grounds (*a*) that Section 22 applies only to cases "within the purview of this Act," and that this was not such a case as those described in Section 20;[351] (*b*) the case was not within the purview of the act because it was *not* a case for violation of the anti-trust laws, which the court believed to be the only cases subject to this provision;[352] and (*c*) the court did not believe that the act was valid, and it certified the question of constitutionality to the Supreme Court.[353]

The second case was *Re Atchison et al.*,[354] in which a demand for jury trial in a contempt proceeding was refused on the ground that the statute was invalid because Congress (it was said) has no power to abridge the inherent power of the courts to deal with contempt.

The third case was *Michaelson et al.* v. *U.S.*,[355] in which it appeared that there had been a strike on an interstate railroad, after an award by the Labor Board, which had acted under the Transportation Act of 1920. An injunction had been issued, and in a contempt proceeding for violation of the injunction, defendants demanded a jury trial, basing their demand upon the Clayton Act. In the trial court (unreported) this demand was denied, and the denial was affirmed by the Circuit Court of Appeals for the following reasons: (*a*) While an ordinary strike does not terminate the employment relation, a strike on an interstate railroad, after an award by the Labor Board, does terminate such relationship,

[351] It was not a case between "an employer and employees," or between "employers and employees," or between "employees," or between "persons employed and persons seeking employment," *because the strike had terminated the relation of employment.* We encountered this belief elsewhere. Cf. this *Journal*, VI (January, 1933), 65 ff., discussing *Duplex Pr. Pr. Co.* v. *Deering et al.*

[352] The court here relied on the "purview of the act" as indicated by Section 16, which gives to private parties the right to petition for injunctions to restrain violation of the anti-trust laws.

[353] See the disposition of the Michaelson Case, *infra*, for determination of this question.

[354] (1922) 284 Fed. 604, Case No. 161. *Re Shehee* was disposed of in the same opinion.

[355] (1923) 291 Fed. 940, Case No. 175.

and, under the Clayton Act, only employees are entitled to jury trial in contempt proceedings. (*b*) The provisions of the Clayton Act, so far as they purport to give the right to jury trial in such cases, are unconstitutional, because Congress has no power to deprive parties in equity of the right to trial by the chancellor.

The Atchison Case was not appealed; but the Canoe Creek Case and the Michaelson Case were appealed, and one decision was rendered to cover both cases, including the answer of the question of constitutionality, which was certified in the Canoe Creek Case.[356] The judgments of the lower courts were reversed. (*a*) The provisions in question are constitutional. This is only a very limited regulation of procedure in the small class of contempt cases in which the acts done are crimes. There is no vested right to a trial by the chancellor without a jury. (*b*) "In a controversy such as we have here, at least [the statute] does not require the existence of the status of employment at the time the acts constituting the contempt are committed, in order to bring into operation the provision for a trial by jury."[357] (*c*) The jury-trial provision is mandatory in the classes of cases covered, since that is the only reasonable manner of interpreting the language of the act. (*d*) The acts alleged to have been done here were clearly within the scope of the act, since they were prima facie violations of a statute of the state of Wisconsin.[358]

The real question, of course, was as to the validity of the jury-trial provision. Since that has been settled by the Michaelson Case, no other cases have been reported under this part of the Clayton Act, since the meaning of the act, in this connection, is fairly plain.[359]

[356] (1924) 266 U.S. 42; 45 S.C. 18, Case No. 175*a*.

[357] 45 S.C. 18, 21; 266 U.S. 42, 69.

[358] R.S. (Wis.) (1921), Sec. 4466*c*. Violation of the statute was not disputed, as such.

[359] Twenty-five cases involving contempt of court have been reported since the Clayton Act. In six of these cases, no mention is made of jury trial. In nineteen cases, jury trial was demanded. In eleven of the nineteen, jury trial was granted by the trial court. Of the remaining eight, in which jury trial was refused by the trial court, four were cases in which the act quite obviously did not apply. Of the remaining four, two were overruled (though never appealed) and two were reversed, all by the Supreme Court in the Michaelson Case.

SUITS TO TEST THE VALIDITY OF COLLECTIVE AGREEMENTS

Of the three cases in this group, only one is of real significance. Its importance lies in its bearing upon the validity and effects of collective bargains upon the rights of members of the association which has made the collective agreement. In *Kessell* v. *G.N. Ry.*[360] the company and the Brotherhood of Railroad Trainmen had entered into an agreement concerning terms of employment. Plaintiff, a member of the Brotherhood in good standing, was discharged under circumstances which, by the terms of the collective agreement, did not justify discharge. He brought suit for damages for breach of contract, claiming that the collective agreement was a part of his employment. In denying relief, the court said:

All that can be gathered from the complaint is that there was an employment agreement between the Railway company and the Brotherhood . . . . ; that the plaintiff was a member of the brotherhood.

The railway company is a corporate entity. The Brotherhood is a distinct entity, either corporate or otherwise, and contracted with the railway company in that capacity and relation. There is not asserted [in the agreement] any right or remedy which shall accrue to a member of the Brotherhood . . . . for a breach of the agreement which directly involves a member.

The contention that the railway company is contractually bound to plaintiff by the terms of the agreement in his individual capacity and that his discharge, being a breach of the contract, gave him a right of action for losses sustained, would create a *relation which is not expressed, and certainly not pleaded.*[361] No right of action accrued to the plaintiff by reason of the employment, unless predicated upon contract or tort. The action is on contract, and there is no allegation that the agreement was by reason of any stipulation incorporated with the service so as to entitle either party to enforce inter se the terms thereof. The agreement obviously was intended to operate between the railway company and the brotherhood, by mutually agreed terms of employment and regulations beneficial to the employees. . . . . it constitutes no contract between any member employee and the railway company. No precedent is presented from any courts of the United States.

The court then cites an analogous Canadian case, in which the Privy Council said, in part:[362]

[The agreement] appears to their lordships to be intended merely to operate as an agreement between a body of employers and a labor organization by

[360] (1931) 51 F. (2d) 304, Case No. 222. [361] Italics supplied.

[362] *Young* v. *Canadian Northern Ry.*, 100 L.J.R. 51; (1931) Appeal Cases, 83. See comment on the Young case, 26 *Ill. Law Rev.* (April, 1932), 922.

In the Young Case, the court thought that there was no contract between the

which the employers undertake that as regards their workmen certain rules beneficial to the workmen shall be observed. By itself, it constitutes no contract between the individual employee and the company which employs him. If the employer refuse to obey the rules, the effective sequel, not an action by an employee, not even an action by Division No. 4 (the distinct [district?] brotherhood or society) against the employer for specific performance or damages, but a strike until the grievance was remedied.

The Kessell Case seems to have been inadequately handled by counsel. (1) The only basis for the allegation of a contractual relationship seems to have been the agreement, itself, for the court says that the "relation is not expressed"; and otherwise, the Young case would hardly have been a valid precedent. (2) The contractual relation was "certainly not pleaded." Pleading of such a relationship could have been supported by evidence at least colorable.[363] (3) No precedent was cited from any courts of the

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brotherhood and the railway, because it said that the effective remedy was not an action, "even by the brotherhood . . . . *but a strike.*" It could not, therefore, have applied a third-party beneficiary theory of liability, even if such were valid in Manitoba (where the case arose), which it was not. The case must have been poorly handled by counsel; else, the court would hardly have said that "*by itself*, the agreement constitutes no contract between the individual employee and the company which employs him."

[363] The author begs leave to submit, in the nature of expert testimony, an opinion derived from some sixteen years of daily contact with railway employees in and out of the various brotherhoods—part of the time, confidential secretary of the chairman of the Trainmen's Grievance Committee on one division of the Chicago & Northwestern Railroad.

It seems fairly certain that the average railway employee does not know all the terms of any collective agreement under which he is working; but it is also fairly certain that most employees *do* know whether or not they are working under an agreement, or "schedule," as it is commonly called. If plaintiff in the Kessell Case knew of the agreement, and/or of the specific term, those facts should have been pleaded.

It seems fair to assert, also, that the average employee, whether he is a member of the brotherhood or not, may reasonably be said to contemplate that *if* there is a schedule, no matter what its terms, such terms will be applicable *to him* as a member of a class for whose benefit and to govern whose work the schedule was adopted. None but employees are to be governed by such agreements; and in the absence of specific stipulations, brought to the individual employee's notice, it seems that any employee may fairly assume that both his rights and his duties are prescribed by the agreement.

If these assumptions could be established in a case like the Kessell Case, the ground work would be laid for the establishment of the existence of a contractual relationship, as well as for showing that each relevant item of the schedule was a term of the contract. At the basis of this, however, there should be pleading of an individual contract relation.

United States. Only one case reported from the courts *of* the United States throws any light at all on the question at issue, and that one is not strictly in point;[364] but a number of cases could have been cited from courts *in* the United States, in support of plaintiff's contention that he was a party to the contract. In at least one case[365] recovery was permitted under such an agreement, when the employee knew that there was an agreement, though he did not know of the specific term involved in the controversy. The principal significance of the Kessell Case seems to lie in the danger that it may operate as a precedent in a later case in which the real issues are more accurately exposed than they were in the Kessell Case.

Another case[366] involved the contractual aspects of a collective agreement, as between the union and certain employers, though it was not a collective bargain as to hours, wages, and terms of employment. Under an agreement between ship-agents (representing certain employers of stevedores) and an incorporated union, the union agreed to furnish union men upon demand and the ship-agents and employers were to employ union men for every job when they were furnished. During the period of the agreement, union men demanded a higher rate of pay in working on the ship of the libellant. The demand was refused, and the officers of the union were asked to furnish other union men; but the union men

[364] *Ahlquist et al.* v. *Alaska-Portland Packers' Assn.*, (1930) 39 F. (2d) 348, Case No. 218B. Shipping articles of seamen included a written agreement which each man signed. Provisions for limiting the day's catch and for certain payments upon certain conditions, were orally waived by the shipowners and a representative of the men. Upon the question of the validity of the waiver by the representative, the sole question was whether or not he had been duly authorized to assent to the waiver. The Ahlquist Case has no direct bearing upon the Kessell Case. But suppose that the representative had been authorized to waive the conditions, and that the authority had been given by majority vote of the men in an association meeting. It is an interesting question, as to the validity of the waiver, as to (*a*) those present who dissented; (*b*) those not present; and (*c*) those employed subsequent to the waiver, who signed the same agreement. This case is discussed in this connection merely to indicate that the counsel for plaintiff in the Kessell Case did not properly bring out the relationship of his client to the employer, and that therefore, we do not know the facts of the case (nor did the court know them).

[365] The cases are collected in a note in 41 *Yale Law Journal* (June, 1932), 1221–26.

[366] *Nederlandsch Amerikaansche Stoomvaart Maatschappij* v. *Stevedores' & Longshoremen's Benev. Soc. et al.*, (1920) 265 Fed. 397, Case No. 122.

would not work and non-union men were hired with the consent of the union. In a suit for damages for loss occasioned by delay ensuing upon refusal of the union men to work, it was held that the agreement was a valid contract, and that the libellant, as one of the principals of the ship-agents, might sue upon this agreement. It was further held that the libellant was entitled to damages for breach of the agreement.[367]

In the field of collective bargaining, then, we have only one case which bears upon the question of the effect of such agreements upon the rights of individual members of a union which is a party to the bargain; and that one does not throw satisfactory light upon the real issues involved in such problems.

NOTE:—The following "labor" cases involved only questions of jurisdiction of the federal courts. The cases are included in this note solely in order that the series may contain some notice of every reported case. When the whole is recast in a form suitable for permanent publication, these cases will be included in the chapter on jurisdiction.

a) *Niles-Bemenet-Pond Co.* v. *Ironmoulders' Union, et al.*, (1917) 246 Fed. 851, Case No. 109. A strike of the employees of a tool company interfered with the performance of that company's contract with complainant. Complainant asked an injunction to restrain the strike, and the tool company was joined as defendant. Held and affirmed by the Supreme Court that, since the interests of the tool company were adverse to those of the union, it was a necessary party *plaintiff*, and there was no jurisdiction when it was joined as defendant (254 U.S. 77).

b) In *Wagner Elec. Co.* v. *Machinists et al.*, (1918) 252 Fed. 597, Case No. 111, complainant was working on government contracts, making munitions and appliances. Defendants tried to induce employees to leave complainant's employ. The court took jurisdiction of the bill to restrain this interference, on the ground that complainant was operating a "joint enterprise with the government" in preparing materials for war. The court was not very sure of this ground, however;

[367] There was no issue as to the responsibility of the union for the acts of its individual members. There was, rather, a fairly simple issue as to whether or not, under a valid agreement to furnish union men, the association was liable in damages when it did not furnish such men; or whether the union was excused from its obligation, by reason of the refusal of the men to do the work.

No good reason appears, why the court should depart from the general principles of the law of contract. One of these principles is that, as a general rule, supervening impossibility does not excuse non-performance of a contractual obligation.

True, one reason for the failure was that the union men loitered about the ship and in some degree prevented the prompt handling of the work; and they did, in fact, make more difficult the procurement of men; but this can hardly be made an excuse for the non-performance of the union's obligation to furnish union men.

it thought that jurisdiction might have been sustained under the Sherman Act, the Sabotage Act of 1917, the pure food laws, or the Sedition Act.

This case was in fact one of novel impression, presenting a brand-new twentieth-century question of public policy for the courts, but the issues were not clear enough to make the decision of general importance.

c) *Jennings* v. *U.S.* (1920) 264 Fed. 399, Case No. 121. In criminal contempt proceedings, defense offered on ground of lack of jurisdiction to enter the decree. Held, this object must be taken by way of appeal, and is no defense to proceeding in criminal contempt.

d) *U.S.* v. *Marine Engrs. Ben. Assn., et al.*, (1921) 277 Fed. 830, Case No. 130. Jurisdiction denied on petition to enjoin assaults, where no conspiracy was shown and no damage to property. The legal remedy of damages was deemed "adequate."

e) *Intl. Orgn. U.M.W.A.* v. *Chafin et al.*, (1923) 286 Fed. 959, Case No. 166. A sheriff had, by assaults and the like, tried to prevent union organization on mine premises and elsewhere. Bill to enjoin the sheriff was dismissed for lack of jurisdiction. The act of an officer is not a violation of the 14th Amendment, there was no violation of any federal statute, and no diversity of citizenship. Federal jurisdiction must rest on the Constitution or on a federal statute; neither was available in this case.

f) *Russell* v. *Central Labor Union et al.*, (1924) L.F. (2d) 412, Case No. 187. An unincorporated association is not a citizen for the purpose of establishing diversity jurisdiction.

g) *Amal. Clo. Wkrs. et al.* v. *Curlee Clo. Co.*, (1927) 19 F. (2d) 439, Case No. 208A. Missouri corporation in process of reincorporation under the laws of Delaware. Transfer of shares not quite complete when suit begun between the corporation and citizens of Missouri. Held, sufficient diversity to give federal jurisdiction. The court was convinced that the reincorporation was not primarily for the purpose of establishing diversity jurisdiction in such suits.

h) In *Washington Cleaning & D. Co.* v. *Cleaners, etc., Union, et al.*, (1929) 34 F. (2d) 897, Case No. 217A, the reverse was true. A company operating and incorporated in Missouri, *during labor troubles*, reincorporated in Delaware and then filed a bill to enjoin citizens of Missouri. The courts were convinced that the reorganization was for the primary purpose of establishing federal jurisdiction, and the bill was dismissed for lack of jurisdiction.

i) In *Detroit Tile & Mosaic Co.* v. *Mason Contractors et al.*, (1930) 38 F. (2d) 384, Case No. 218A, subcontractors filed a bill to enjoin conspiracy of workmen to interfere with performance of contract, and the general contractor was joined as a party *defendant*. All parties were citizens of Michigan except plaintiff, which was a New Jersey corporation. It was held that the general contractor's interests were not in sympathy with those of the other defendants, and that he could not be joined as party defendant, for that reason. But to join him as a party plaintiff would deprive the courts of diversity jurisdiction, because there must be diversity of citizenship between *all* parties on one side and *all* parties on the other side. So long as the general contractor was joined as a party at all, there was no jurisdiction. (No other basis for jurisdiction was urged.)

j) *Broh. L. F. & E.* v. *Pinkston*, (1933) 69 F. (2d) 600, and 55 Sup. Ct. 1 (1934), involved merely the question whether or not the controversy with respect to pension rights involved the statutory amount of value ($3,000).

[*To be concluded*]

BOOK REVIEWS

The Unemployment Exchange Service of Great Britain. By T. S. CHEGWIDDEN and G. MYRDDIN-EVANS. New York: Industrial Relations Counselors, Inc., 1934. Pp. xiv+310.

Prior to some twenty years ago workers were quite generally recruited at the factory or office "gate" and final selection was made by the foreman or supervisor directly responsible for their work. This method of decentralized hiring was exceedingly inefficient from the standpoint of both the worker and the employer. It involved a great deal of fruitless tramping on the part of workers and an excessive amount of interviewing on the part of employers. Under this system it was by no means an uncommon practice for one department of a business to be discharging workers while another department was hiring workers of the same or comparable abilities.

The organization in the larger business units of a central employment department under the control of a specialist introduced a marked improvement in the efficiency of hiring and firing, but from a community standpoint the labor market remained unorganized and uncoordinated. The scattered and, for the most part, ineffective public employment offices, and the numerous voluntary exchanges operated as charitable enterprises or for profit contributed little of net value toward organizing an effective labor market. The situation called for a system of exchanges organized on a national basis. The Federal Wagner-Peyser Act passed in June, 1933, was designed to set up and implement such a system.

To date fairly adequate employment services have been established in seventeen states. Progress has been hampered by tardy and ineffective action on the part of state legislatures; by general ignorance and lack of interest on the part of workers and employers; and by a dearth of technical information on the set-up and operation of public employment exchanges. The literature on the subject has been most scrappy and largely superficial.

England has operated a national system of unemployment exchanges since 1909. During that period England has suffered numerous major shifts in the volume and direction of employment and has, moreover,

attempted to administer a national system of unemployment insurance. These problems placed an unusually severe burden on the labor exchanges. The present book is a detailed discussion of the factors determining the exchange problems, and of the organization, policies, and detailed procedures instituted to cope with these problems. The authors are directly engaged in labor exchange administration and in consequence are thoroughly familiar with the details of problems, policies, and procedures. Under the editorial guidance of Industrial Relations Counselors they have attempted to prepare a report designed to convey to American students those features of the British system judged to be of most help to Americans now engaged in the early stages of developing a national system of labor exchanges. To this end, Part II is devoted to the administration of the unemployment insurance plan.

Although care must be taken in adapting a British plan to American conditions, this book is indispensable to persons interested in plans to improve the labor market, and in machinery to administer unemployment insurance.

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The Investment Policy of Trust Institutions. By N. GILBERT RIDDLE. Chicago: Business Publications Co., 1934. Pp. x+310. $4.00.

By painstaking research and compilation of many studies in this field, Professor Riddle has brought together much material which adds to our store of information upon the nature of trust investing. While the history of trust institutions has been adequately handled in existing literature, a real lack of information exists upon actual investment experience and problems of the corporate trustee. This book helps to fill this need and also points the way towards fields in which further research is needed.

The fact that no information is available as to the amount of investment funds actually managed by corporate trustees in this country has long been deplored. Professor Riddle in his first chapter reviews all of the available sources of data and points out that assets in personal trust funds under the control of corporate fiduciaries probably exceed both life-insurance assets and savings deposits. The study of the magnitude of trust funds already handled by these institutions is followed

by a survey of the potential supply of such funds. This survey indicates that personal trust business can be expected to score further substantial gains.

Of even greater interest to investment students is the detailed analysis of the investment experience of some 196 personal trusts managed by 19 institutions in 5 states. To the reviewer, this is the most comprehensive survey of the record of trust management so far published. Not only is the diversification as to type of security and industrial field thoroughly discussed for the entire group and according to size of the trust, but also the appreciation or depreciation in capital value and the income derived, is presented. The reader could only wish that in concluding this extensive statistical study, the author had made more comparisons with the investment record of other institutions, such as fire-insurance companies, or investment management counsel. The data presented are so detailed that the lack of a summary of the investment record shown by these 196 institutions, is likely to prove serious to the busy reader.

To make this book a complete manual upon the investment policy of trust institutions, the author has included chapters detailing the investment technique as practiced by important fiduciaries, and several chapters upon legal restrictions on the trust instrument and regulation of trust investment in several states. In addition, there are brief chapters which suggest the standard investment tests to be applied to select investments in each of the principal fields: Government, Real Estate, Railroad, Public Utilities, and Industrials.

The author concludes that some liberalization of regulations upon trust investment is desirable. ". . . . It is highly necessary that trustees be given adequate powers to select those securities which are suitable for trust investment, and to change them when conditions warrant. However, the present requirement of responsibility and good faith in the execution of their duties . . . . should remain unchanged." (P. 299.)

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